

Figure 4.238: DH A23-A24 0deg - bridgegirder : Shear force strong axis [MN]

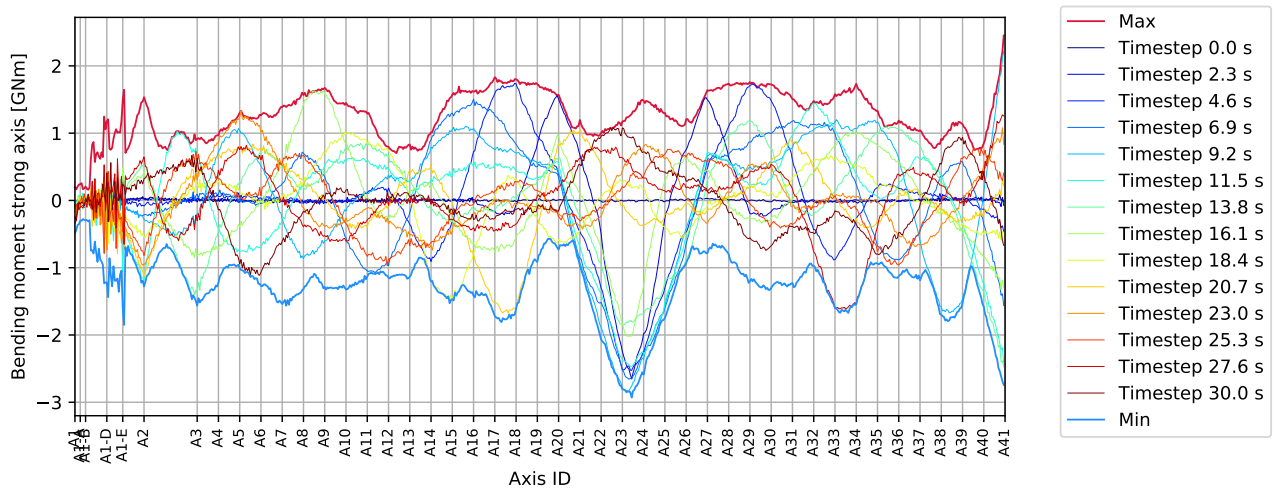


Figure 4.239: DH A23-A24 0deg - bridgegirder : Bending moment strong axis [GNm]

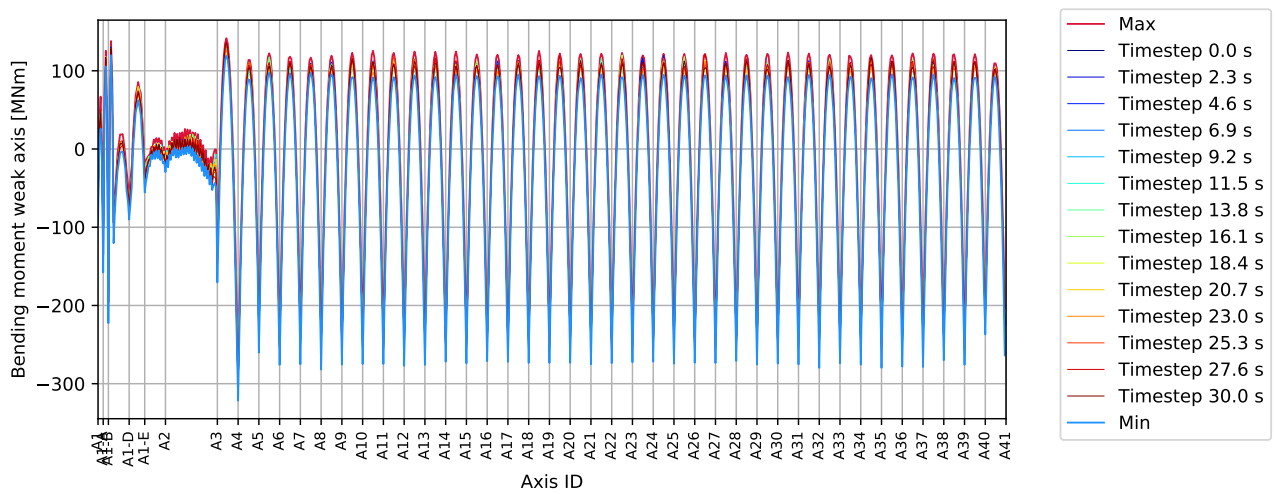


Figure 4.240: DH A23-A24 0deg - bridgegirder : Bending moment weak axis [MNm]

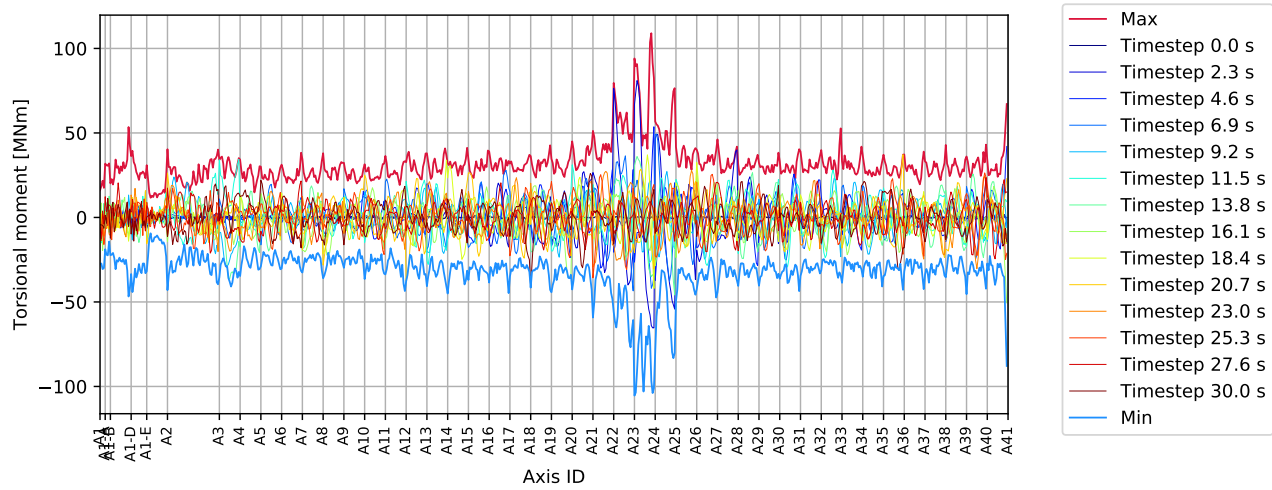


Figure 4.241: DH A23-A24 0deg - bridgegirder : Torsional moment [MNm]

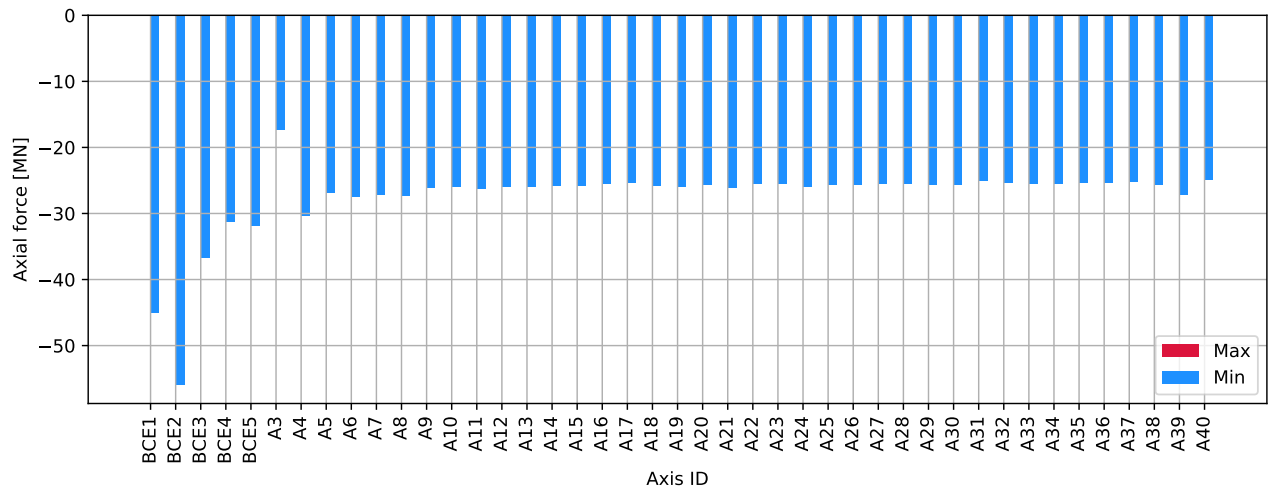


Figure 4.242: DH A23-A24 0deg - columns bottom : Axial force [MN]

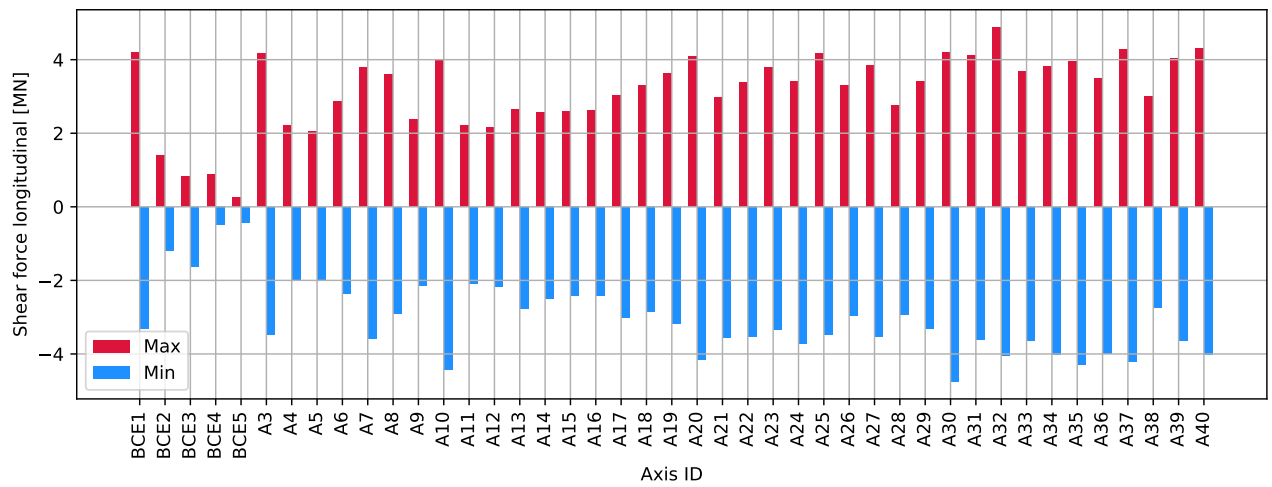


Figure 4.243: DH A23-A24 0deg - columns bottom : Shear force longitudinal [MN]

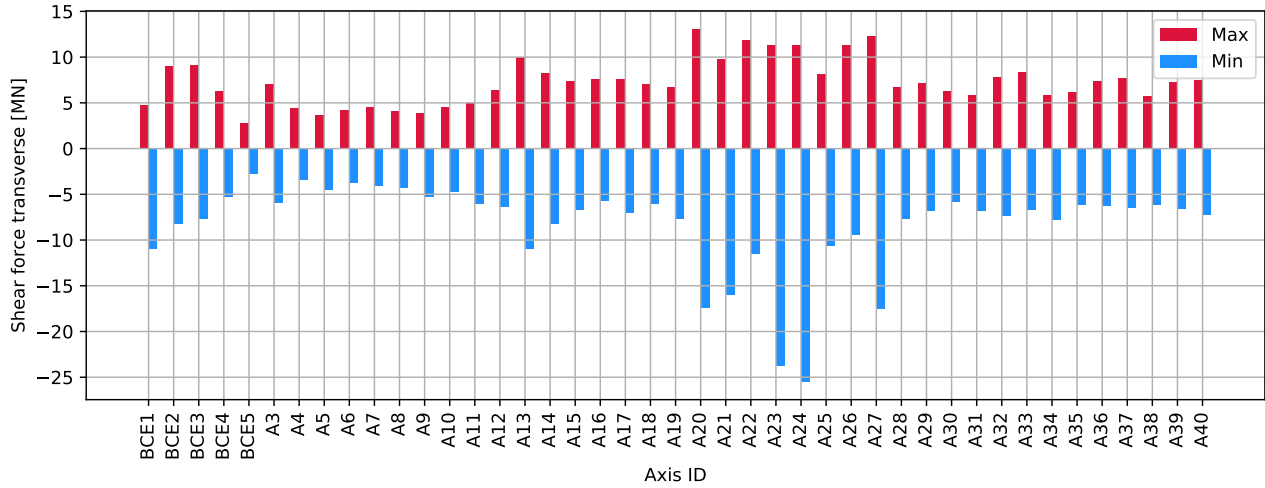


Figure 4.244: DH A23-A24 0deg - columns bottom : Shear force transverse [MN]

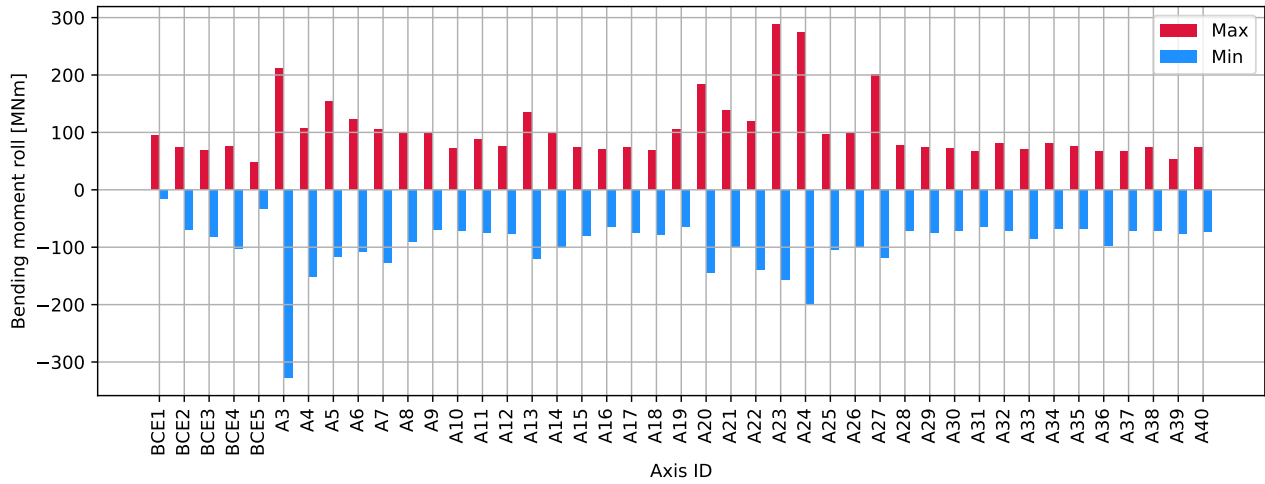


Figure 4.245: DH A23-A24 0deg - columns bottom : Bending moment roll [MNm]

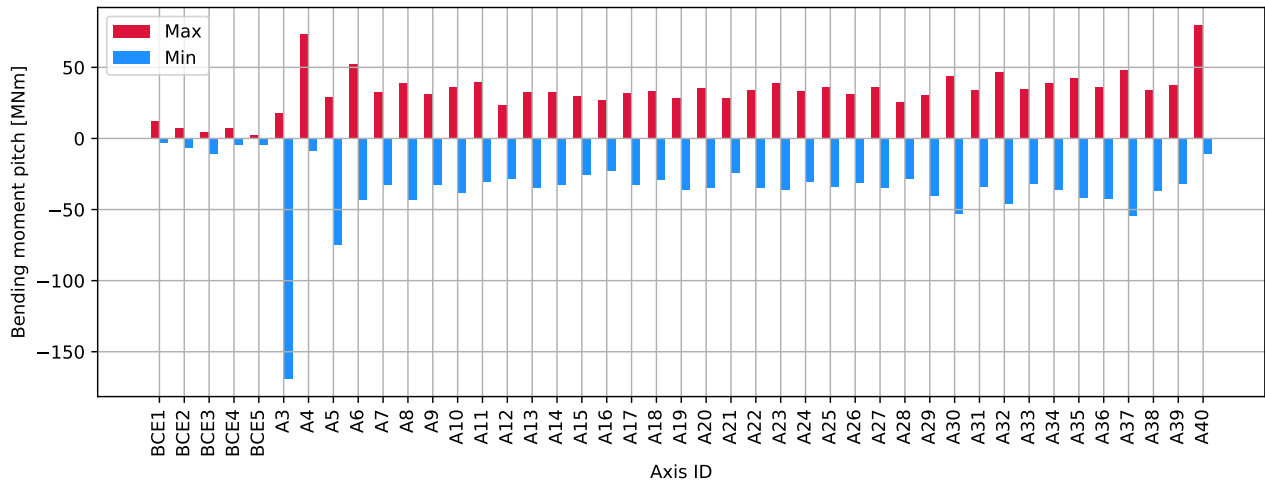


Figure 4.246: DH A23-A24 0deg - columns bottom : Bending moment pitch [MNm]

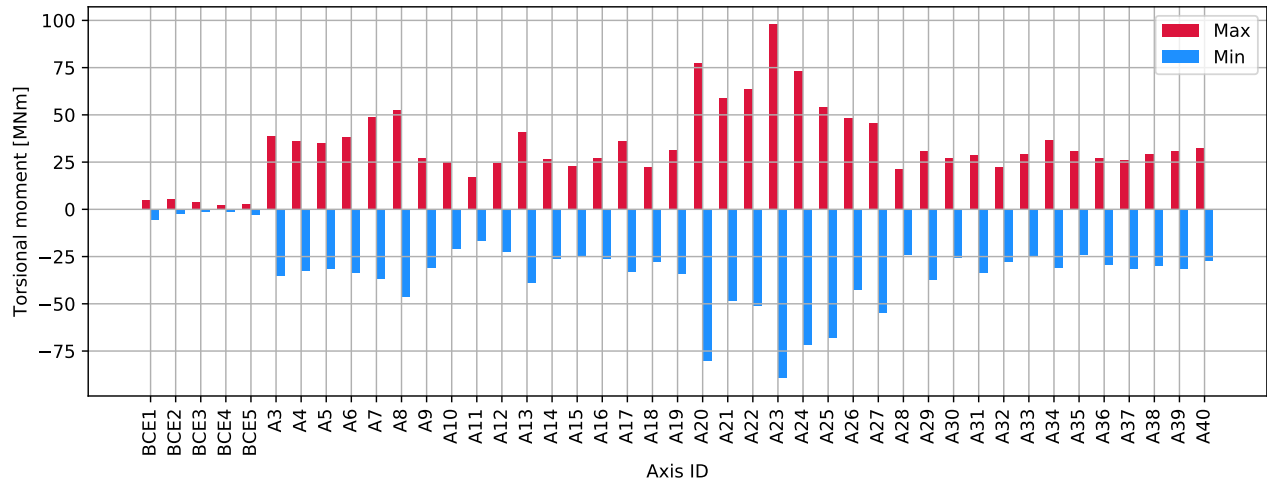


Figure 4.247: DH A23-A24 0deg - columns bottom : Torsional moment [MNm]

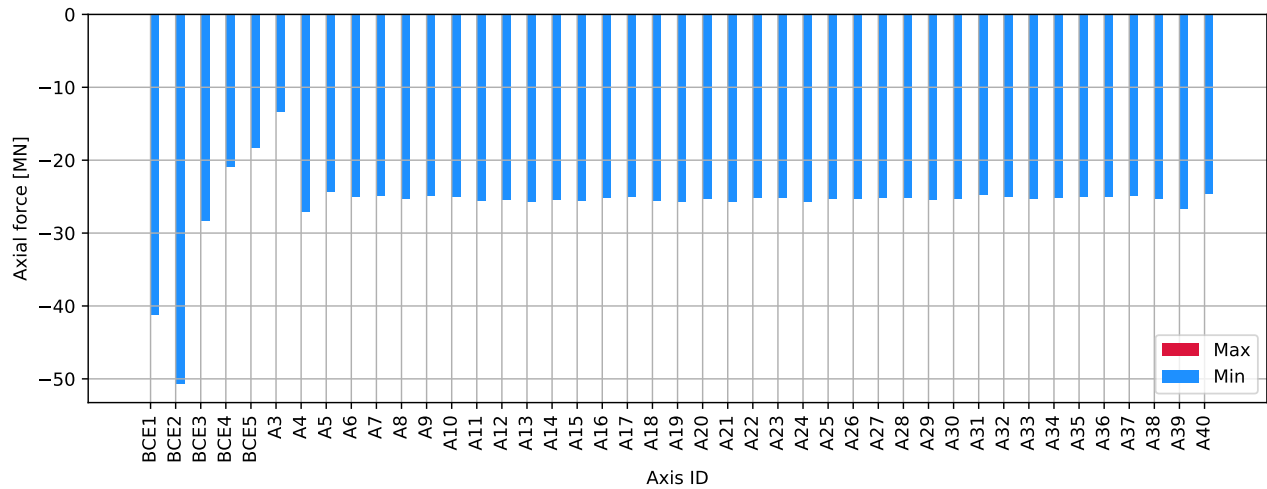


Figure 4.248: DH A23-A24 0deg - columns top : Axial force [MN]

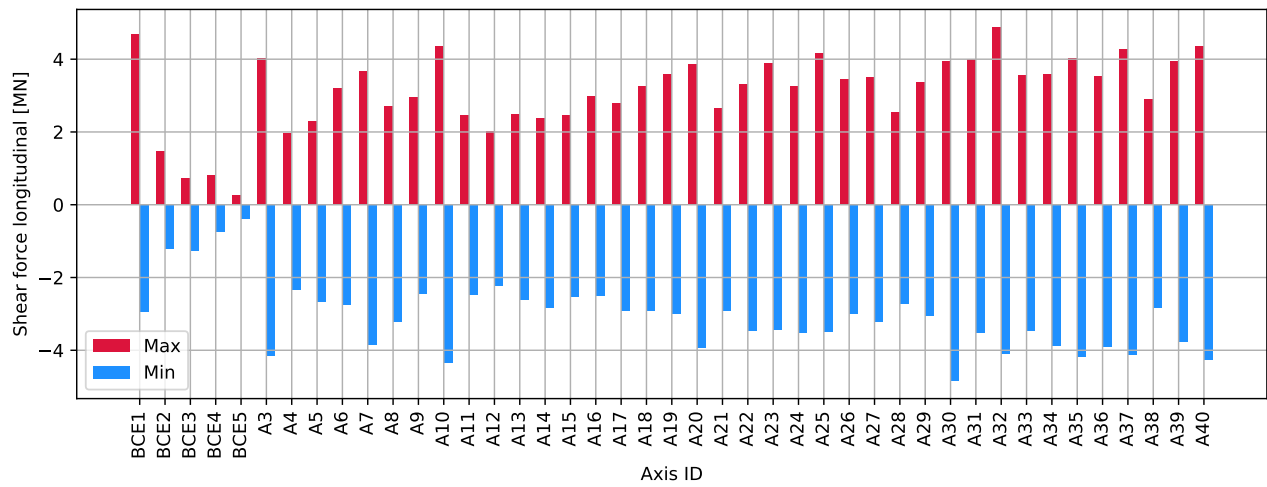


Figure 4.249: DH A23-A24 0deg - columns top : Shear force longitudinal [MN]

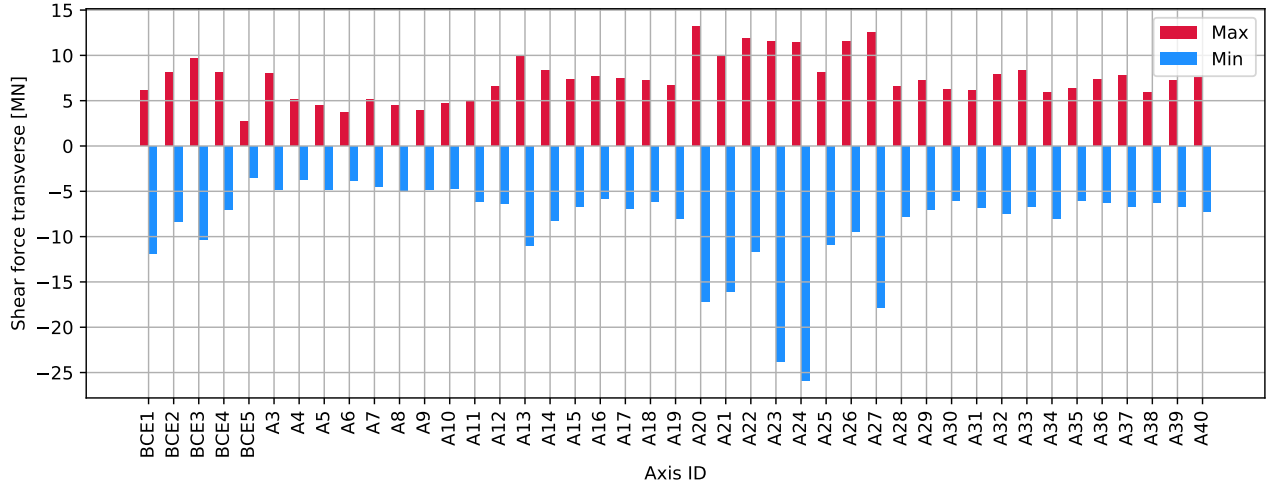


Figure 4.250: DH A23-A24 0deg - columns top : Shear force transverse [MN]

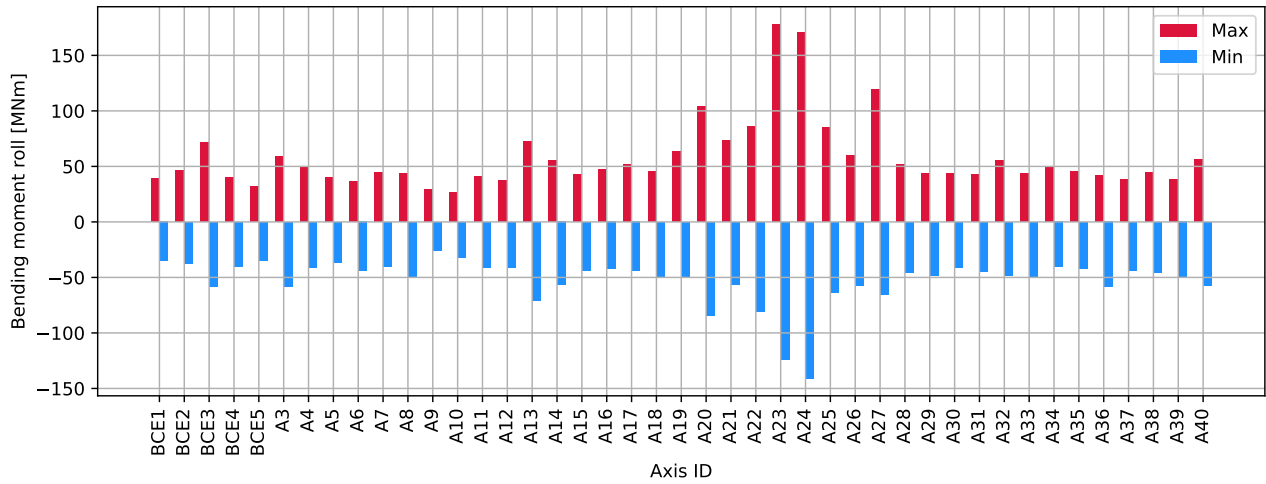


Figure 4.251: DH A23-A24 0deg - columns top : Bending moment roll [MNm]

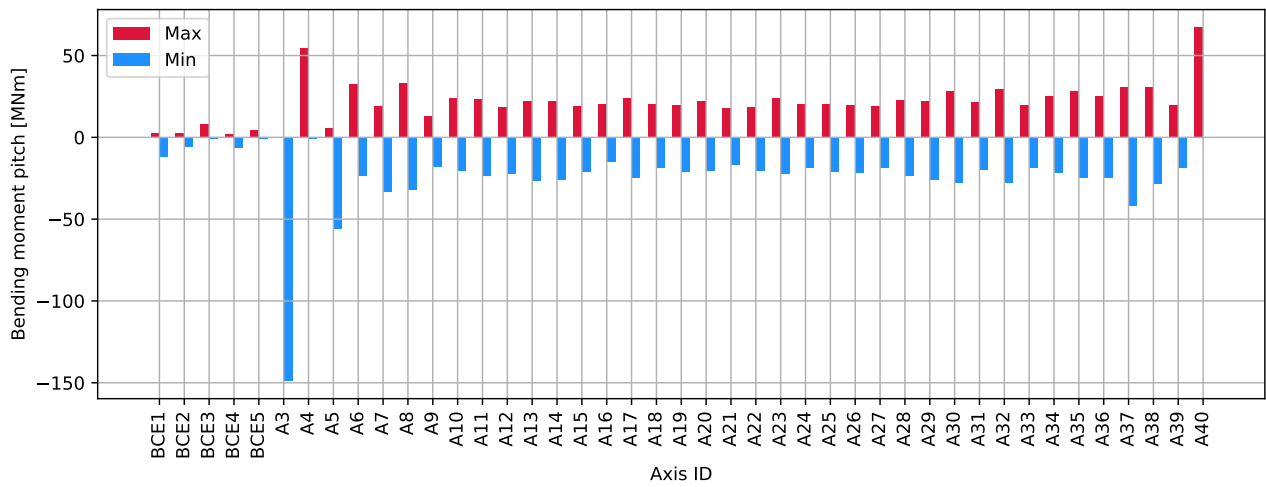


Figure 4.252: DH A23-A24 0deg - columns top : Bending moment pitch [MNm]

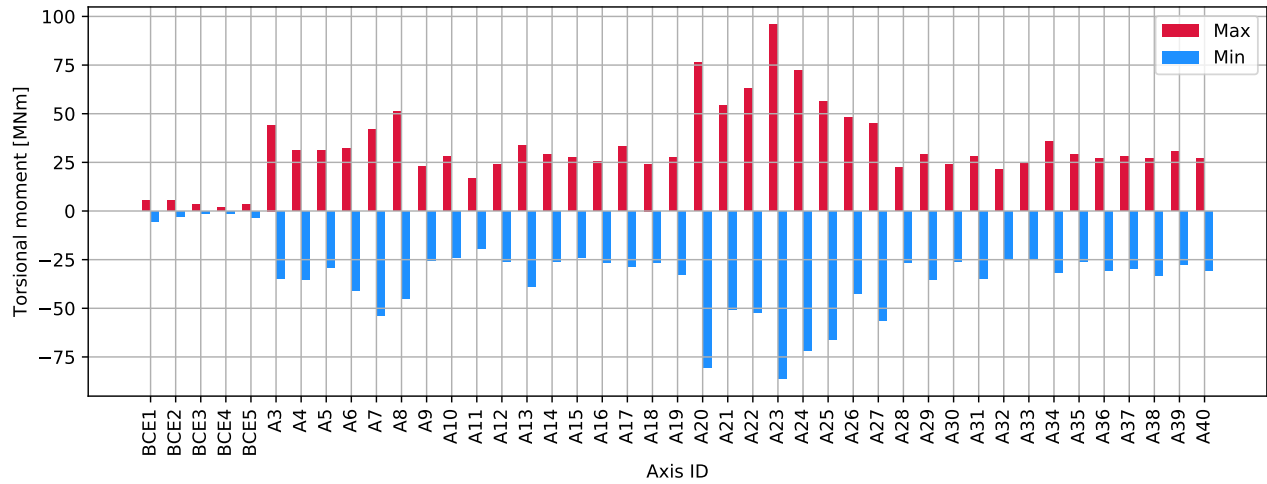


Figure 4.253: DH A23-A24 0deg - columns top : Torsional moment [MNm]

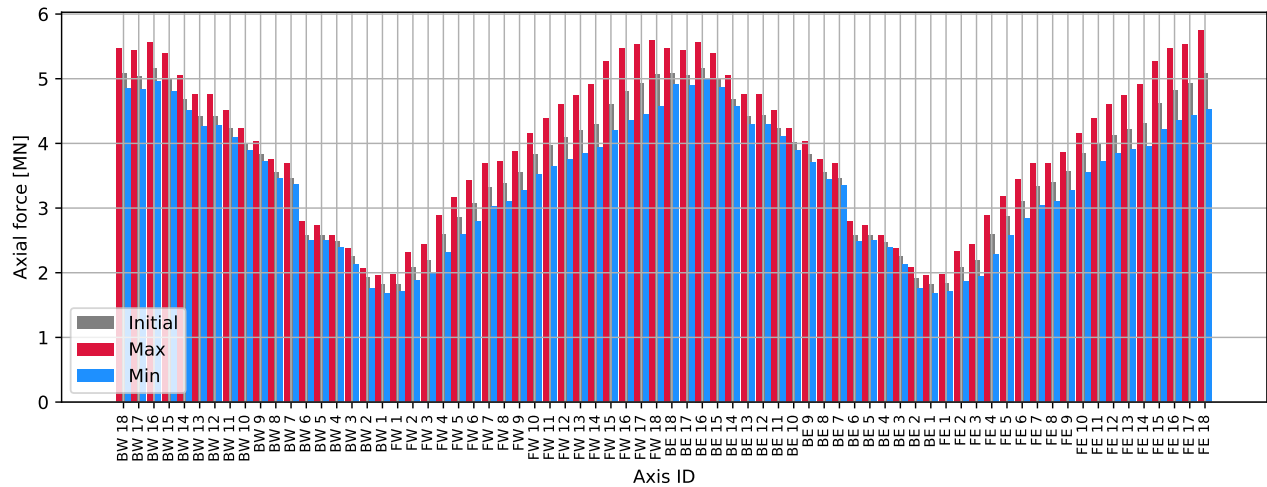


Figure 4.254: DH A23-A24 0deg - cables : Axial force [MN]

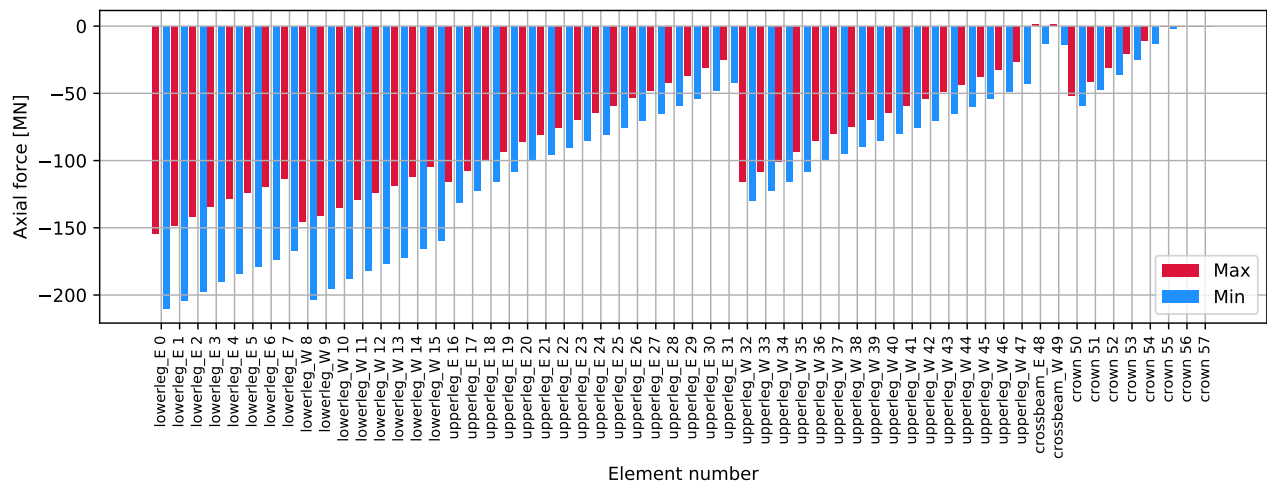


Figure 4.255: DH A23-A24 0deg - tower: Axial force [MN]

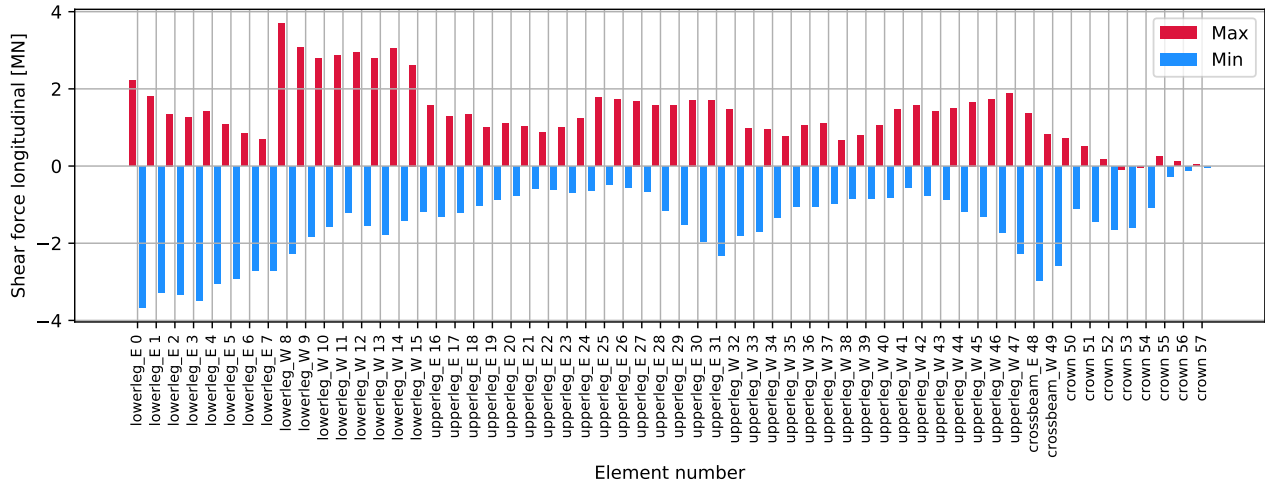


Figure 4.256: DH A23-A24 0deg - tower: Shear force longitudinal [MN]

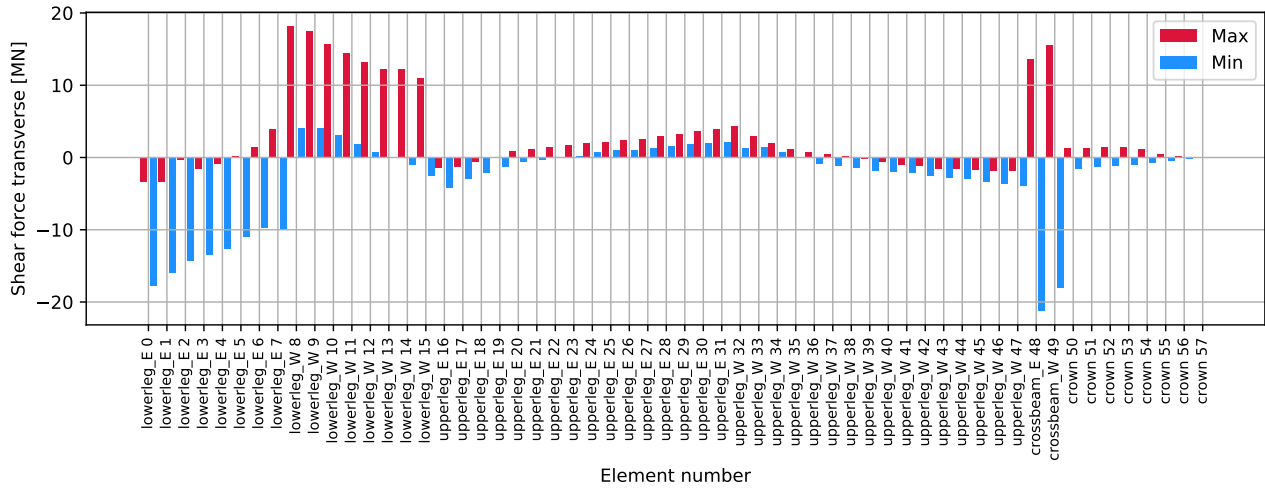


Figure 4.257: DH A23-A24 0deg - tower: Shear force transverse [MN]

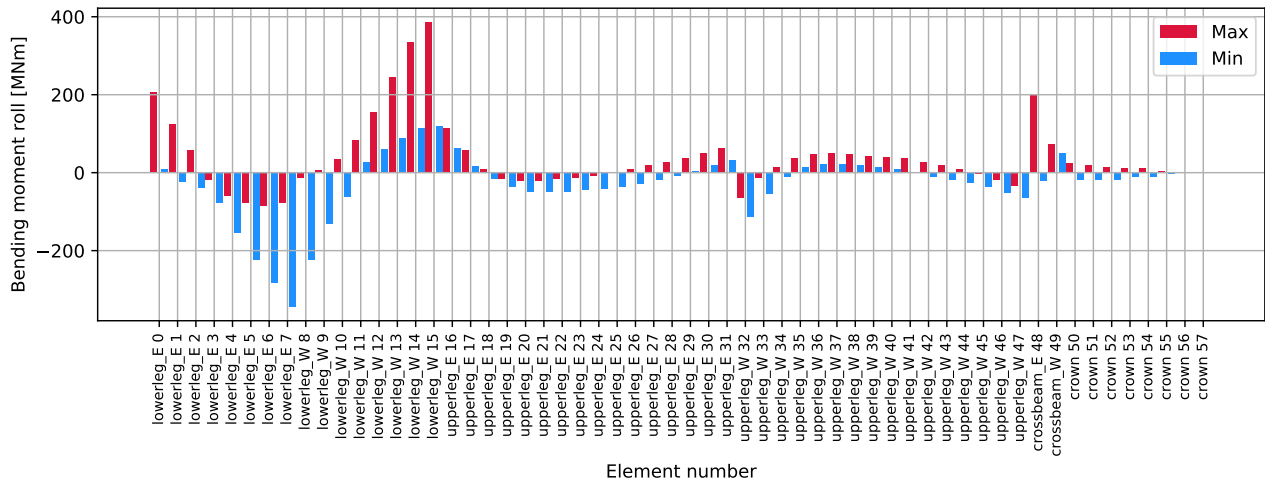


Figure 4.258: DH A23-A24 0deg - tower: Bending moment roll [MNm]

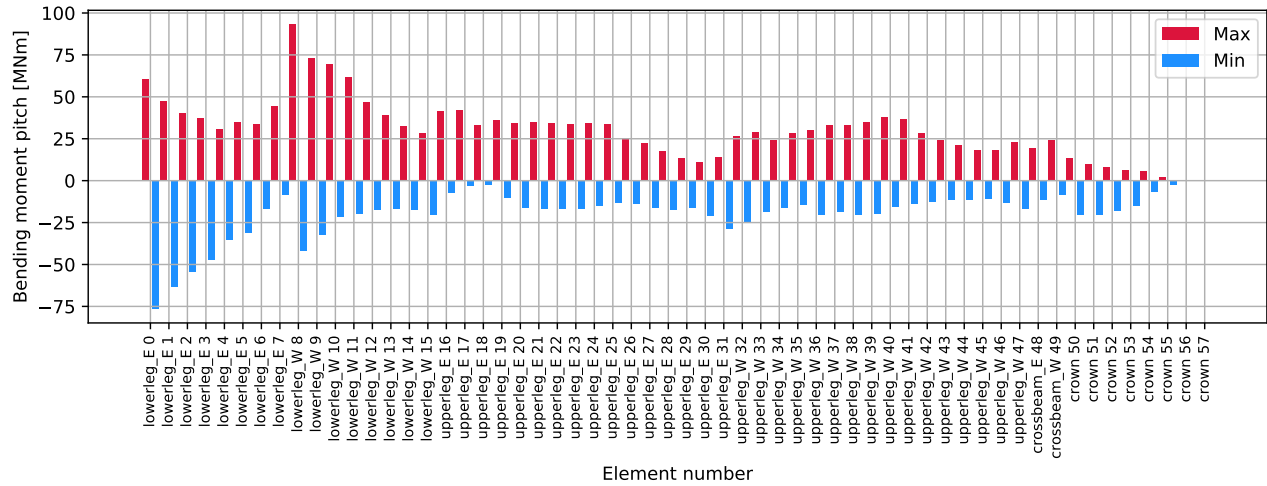


Figure 4.259: DH A23-A24 0deg - tower: Bending moment pitch [MNm]

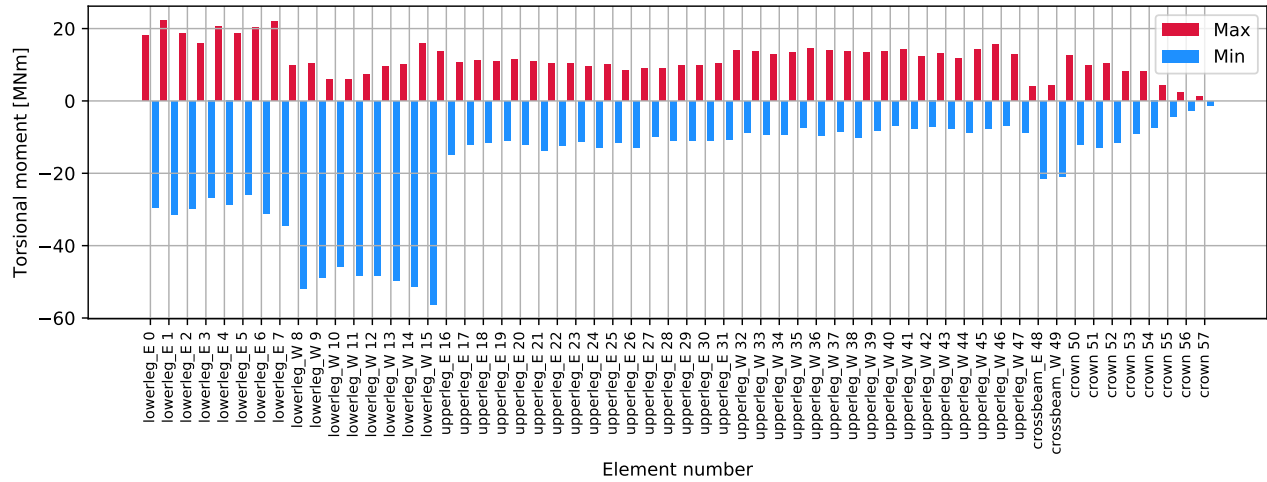


Figure 4.260: DH A23-A24 0deg - tower: Torsional moment [MNm]

4.6.3 Time series

Note : Time series are filtered using a Savitzky-Golay filter for increased readability of the time history plots. Hence, maximum values that occur due to a rapid vibration are not shown in the plots. For maximum values, refer to the tabulated data.

All elements are numbered from South to North, bottom to top

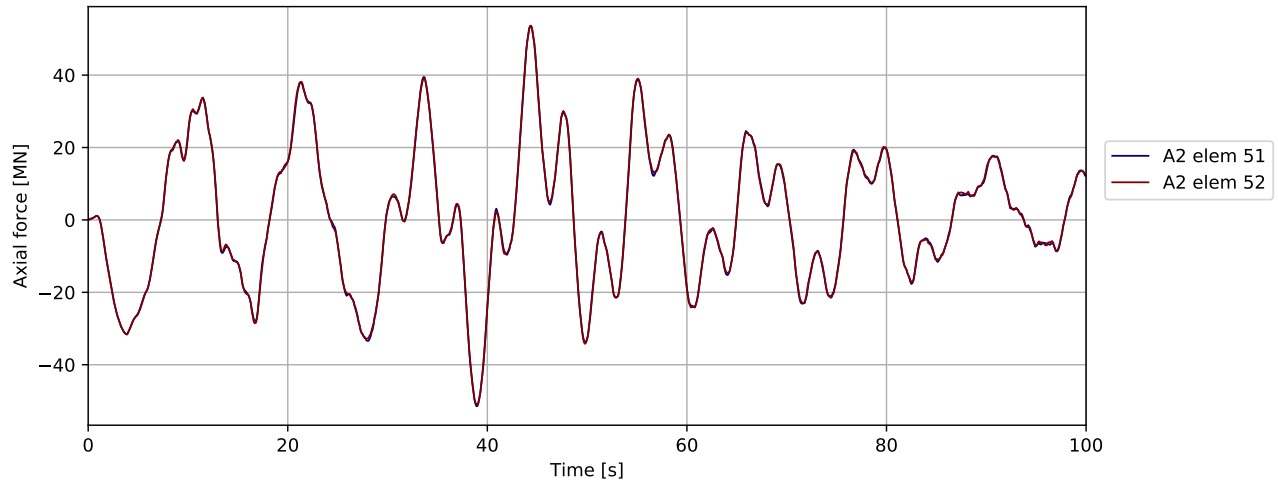


Figure 4.261: DH A23-A24 0deg - bridgegirder @ pylon: Axial force [MN]

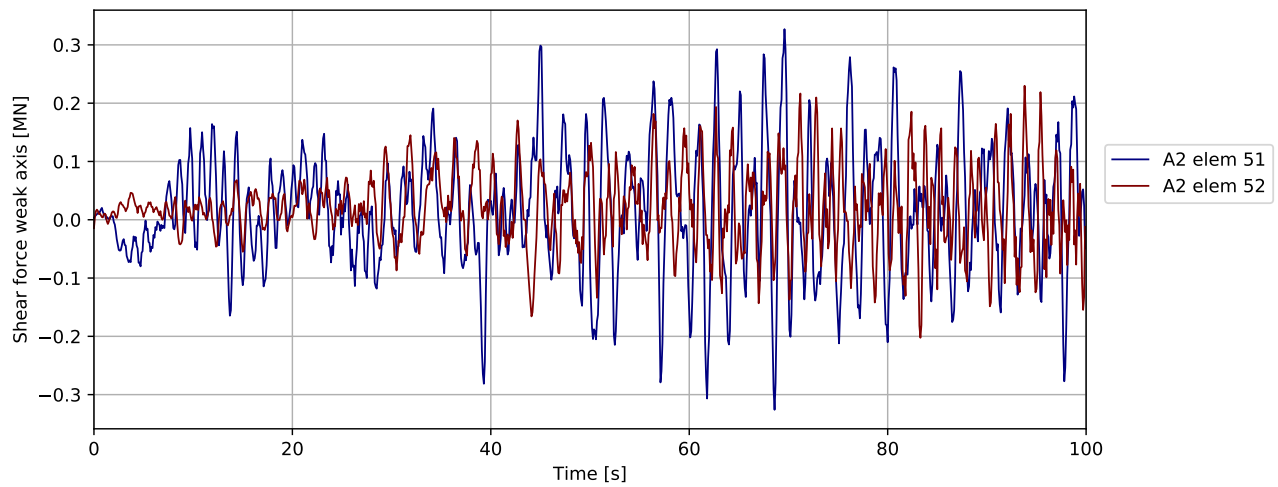


Figure 4.262: DH A23-A24 0deg - bridgegirder @ pylon: Shear force weak axis [MN]

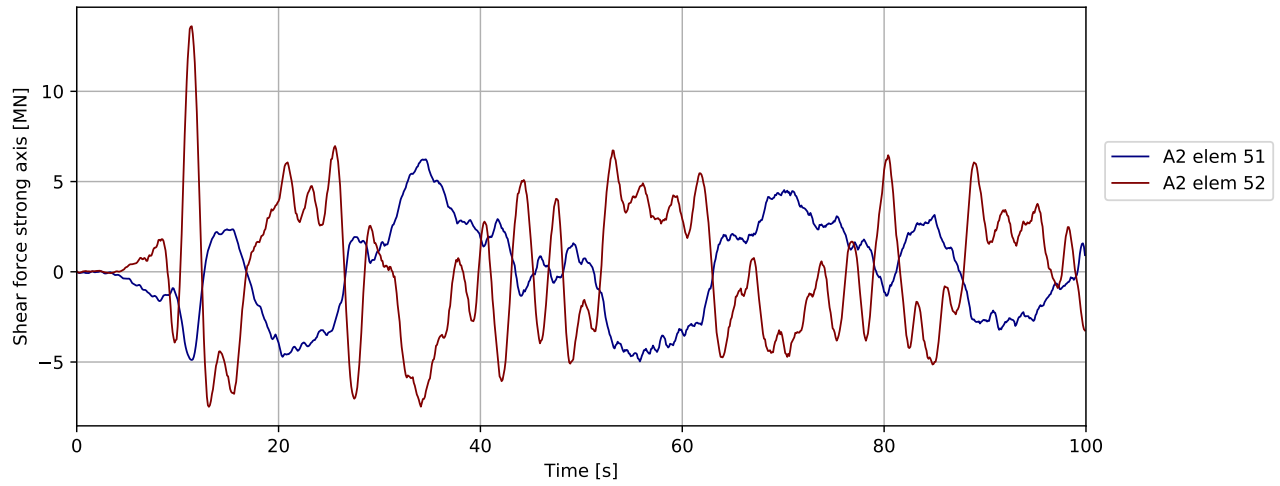


Figure 4.263: DH A23-A24 0deg - bridgegirder @ pylon: Shear force strong axis [MN]

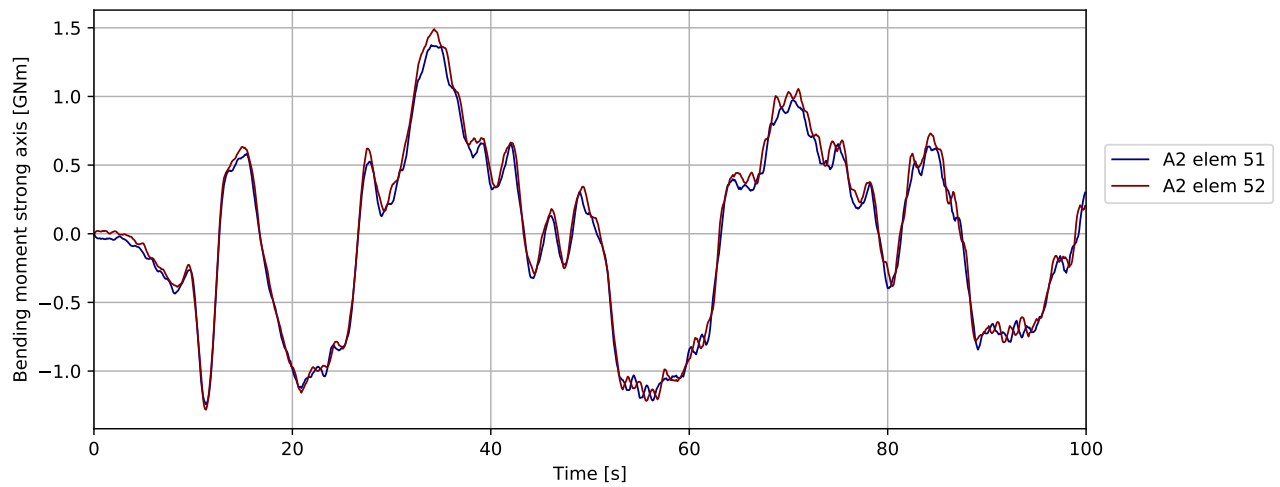


Figure 4.264: DH A23-A24 0deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

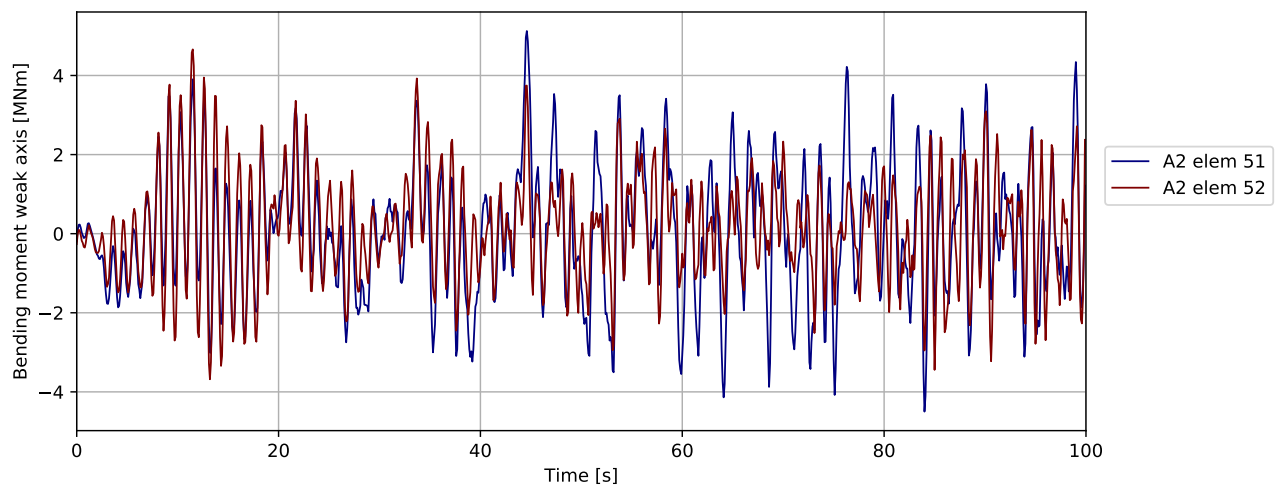


Figure 4.265: DH A23-A24 0deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

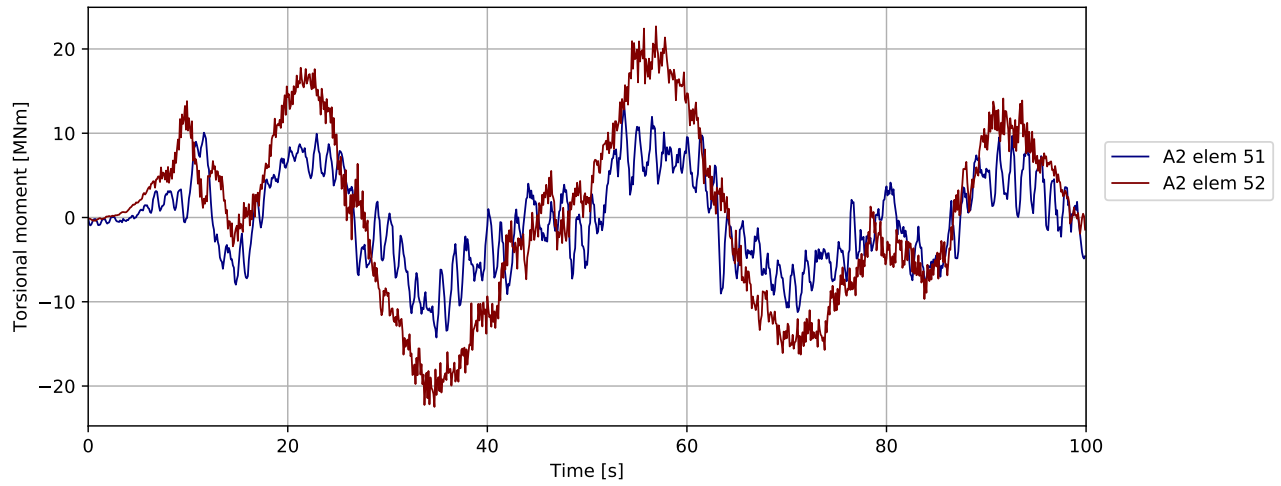


Figure 4.266: DH A23-A24 0deg - bridgegirder @ pylon: Torsional moment [MNm]

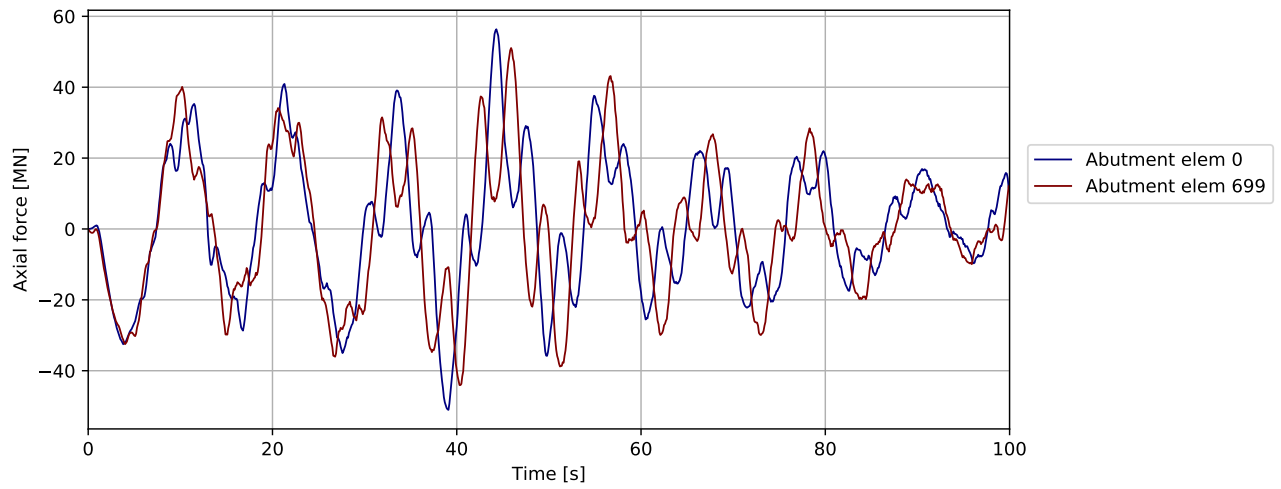


Figure 4.267: DH A23-A24 0deg - bridgegirder @abutments: Axial force [MN]

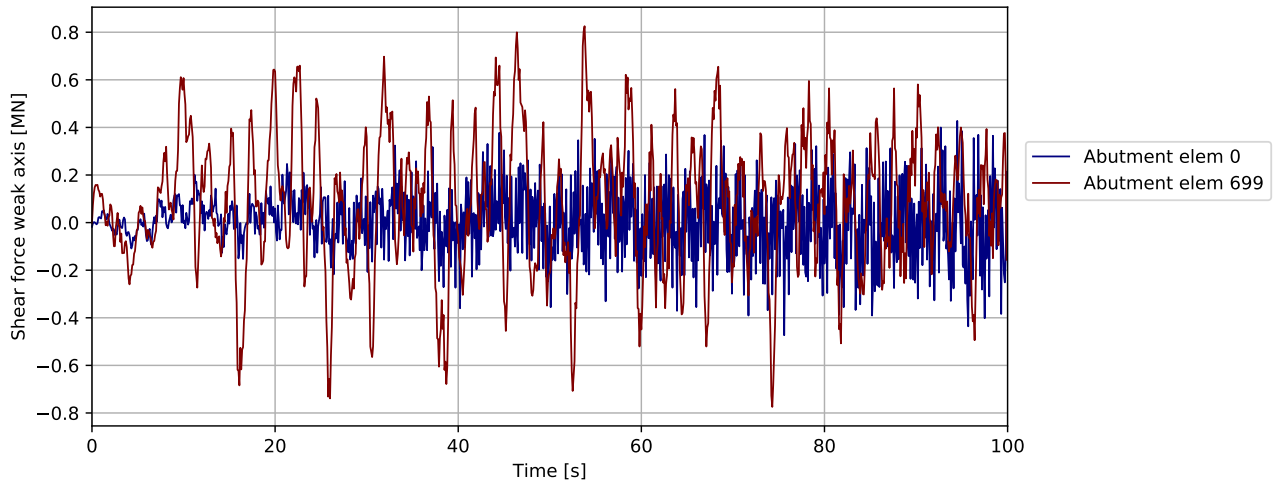


Figure 4.268: DH A23-A24 0deg - bridgegirder @abutments: Shear force weak axis [MN]

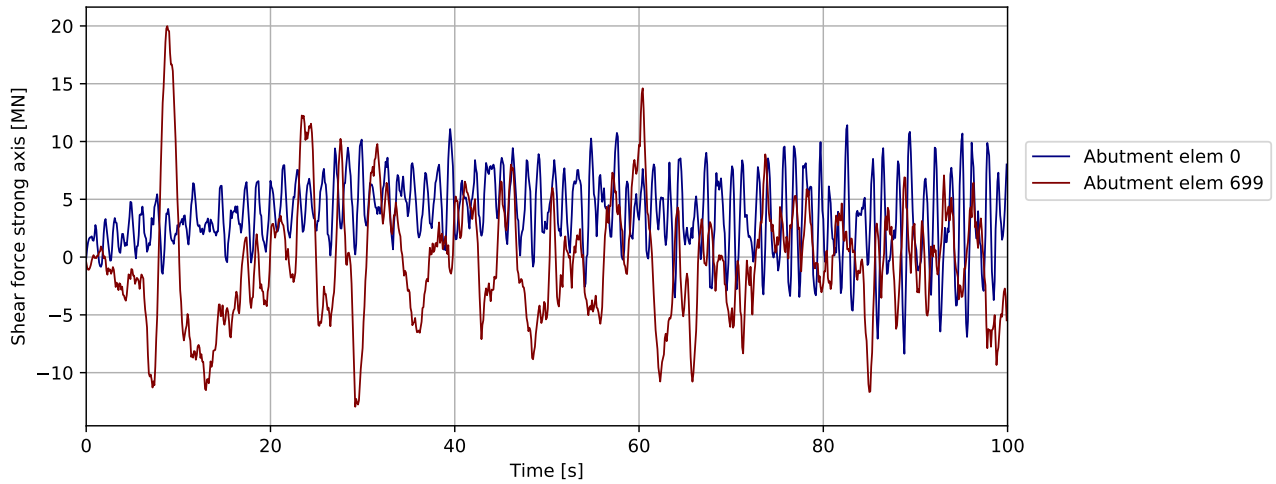


Figure 4.269: DH A23-A24 0deg - bridgegirder @abutments: Shear force strong axis [MN]

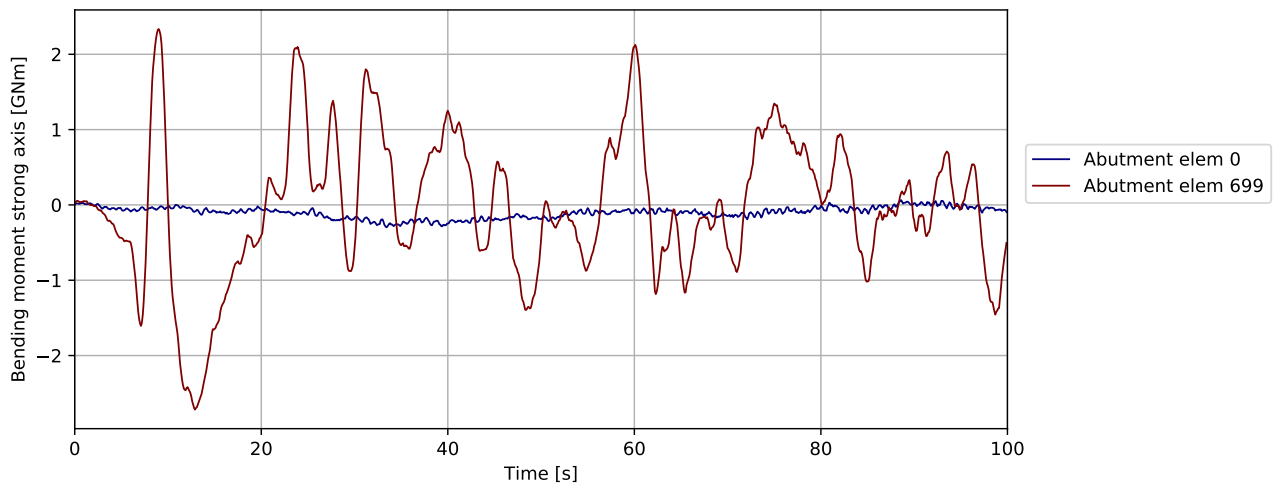


Figure 4.270: DH A23-A24 0deg - bridgegirder @abutments: Bending moment strong axis [GNm]

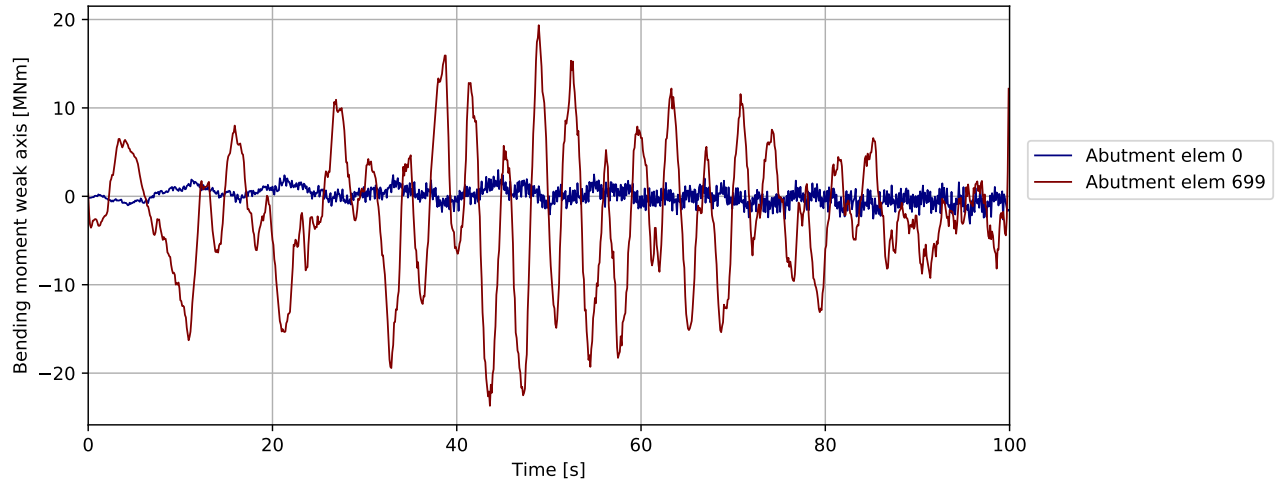


Figure 4.271: DH A23-A24 0deg - bridgegirder @abutments: Bending moment weak axis [MNm]

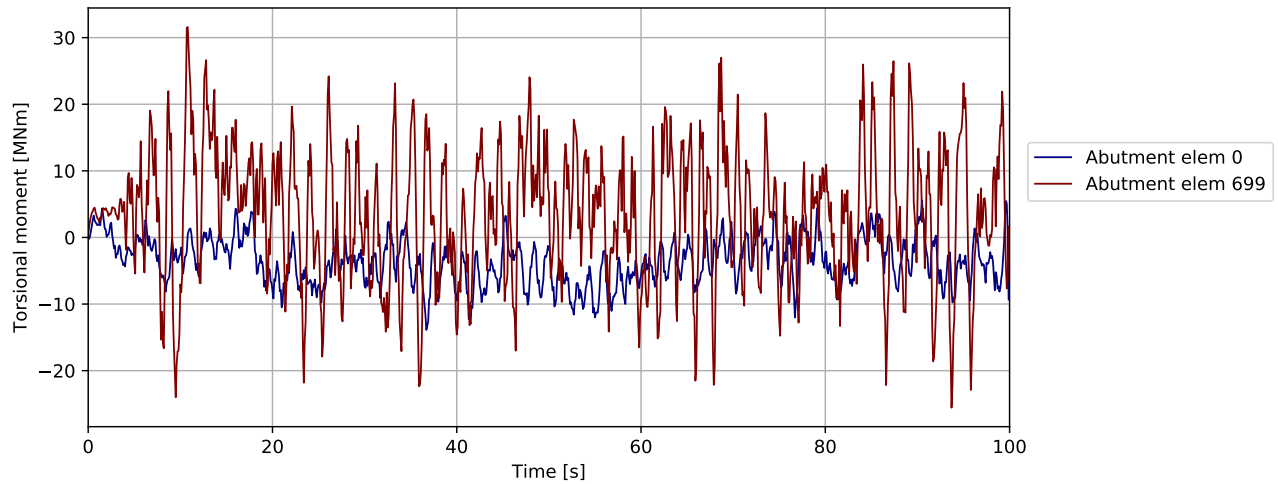


Figure 4.272: DH A23-A24 0deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

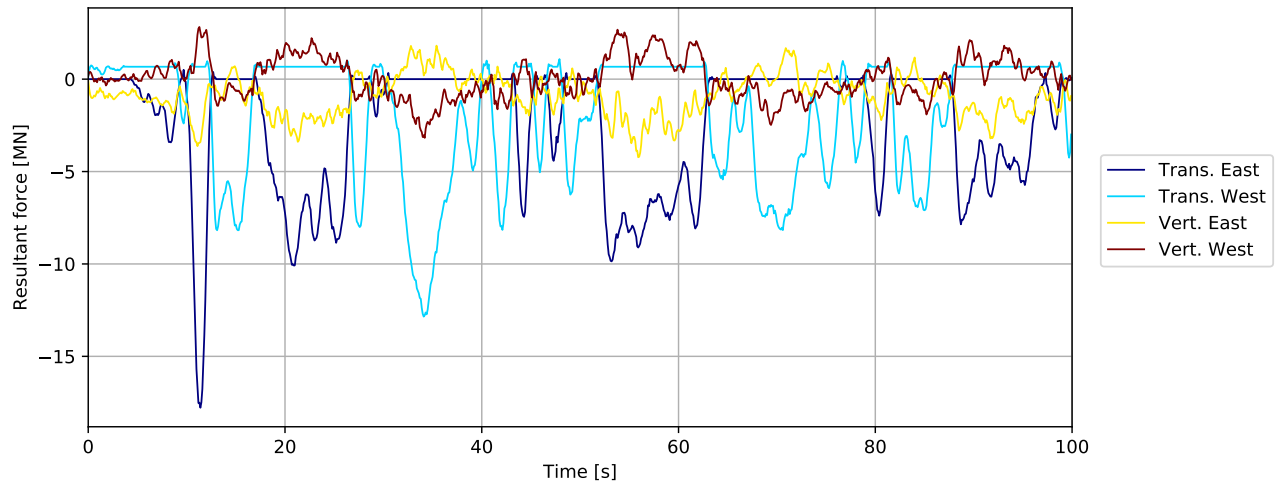


Figure 4.273: DH A23-A24 0deg - bridgегirder supports in tower: Resultant force [MN]

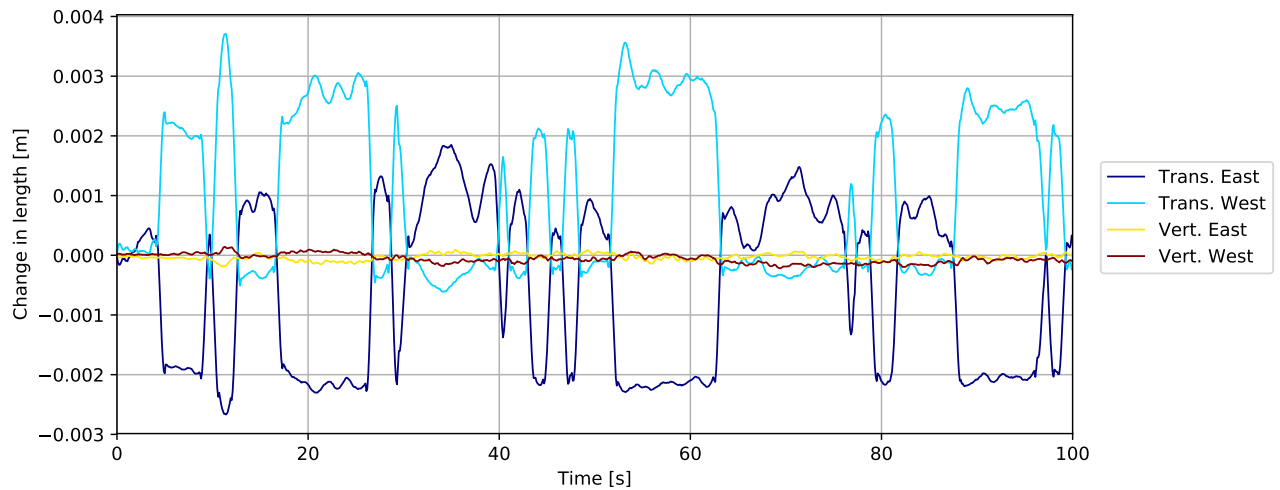


Figure 4.274: DH A23-A24 0deg - bridgегirder supports in tower: Change in length [m]

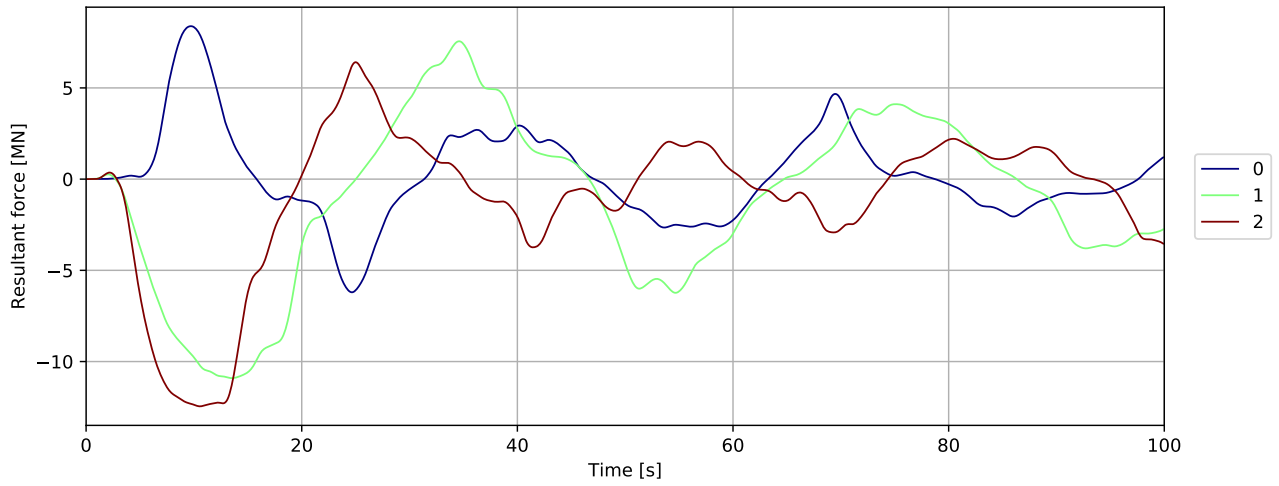


Figure 4.275: Mooring force

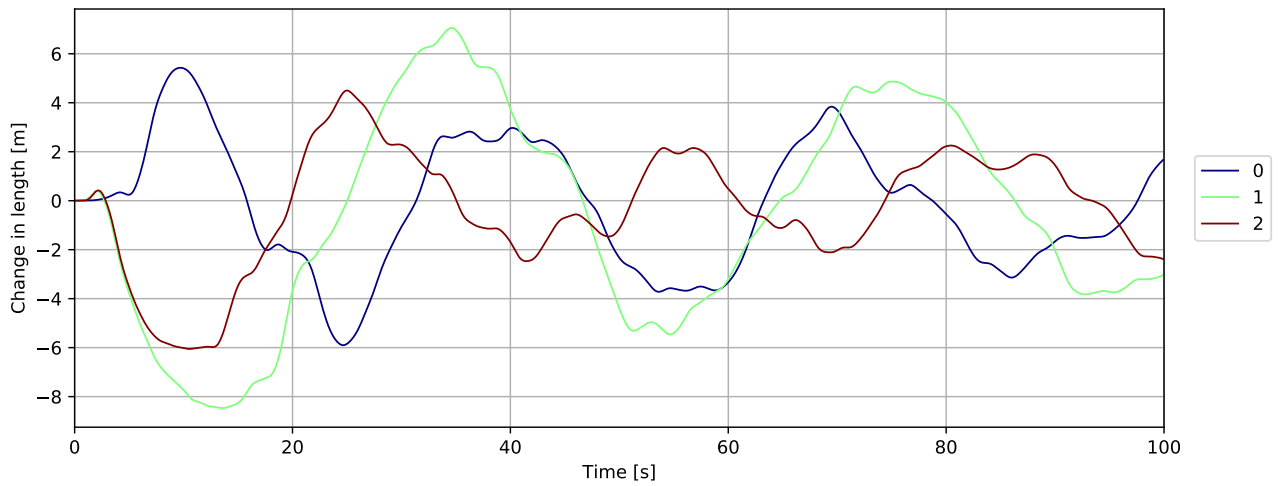


Figure 4.276: Mooring displacement

4.7 Deck house A27-A28 0deg

4.7.1 Overall response

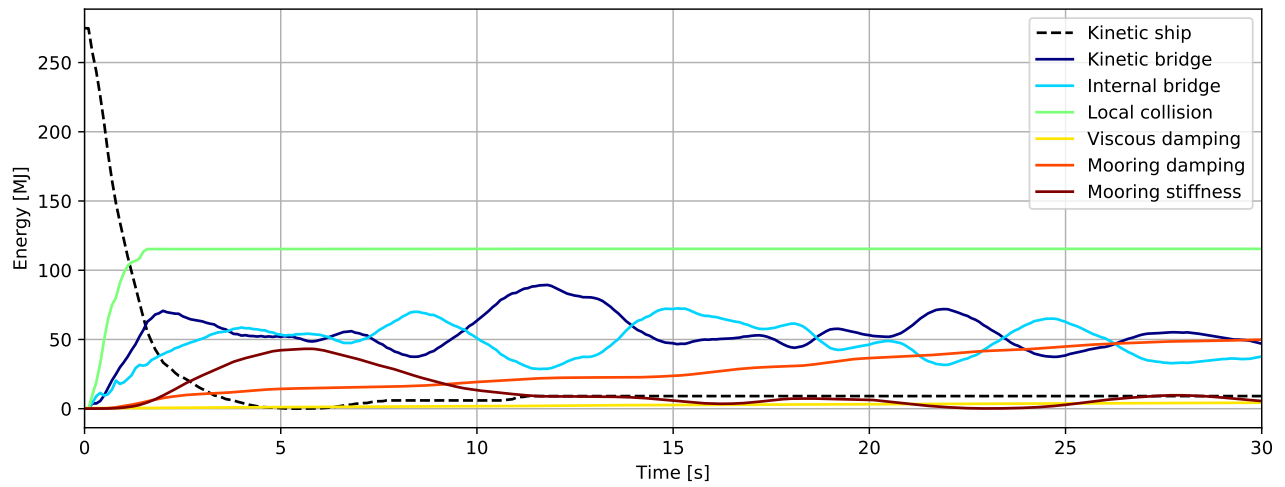


Figure 4.277: Energy [MJ] - initial phase

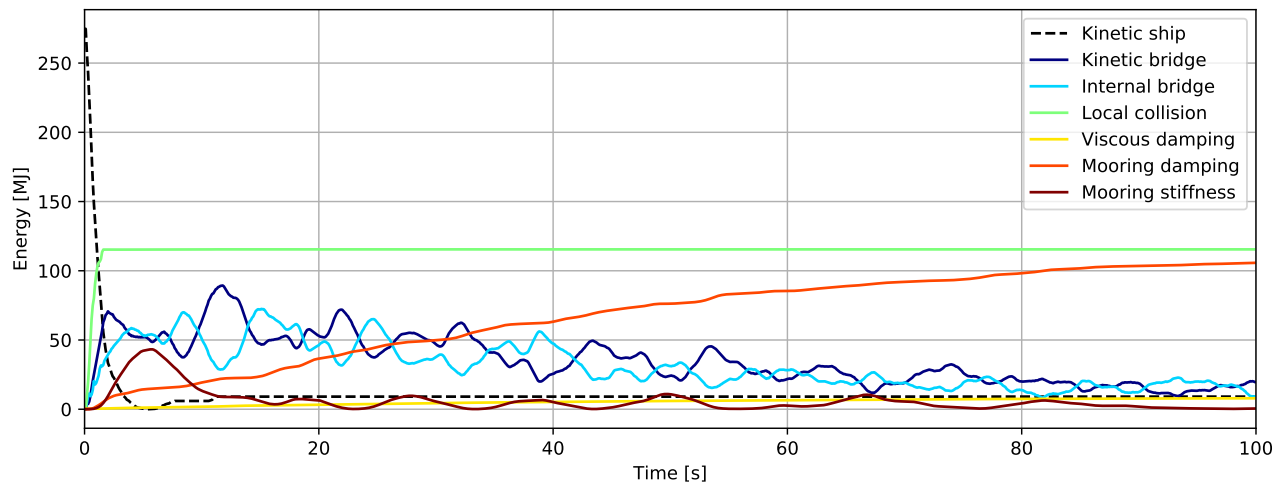


Figure 4.278: Energy [MJ]

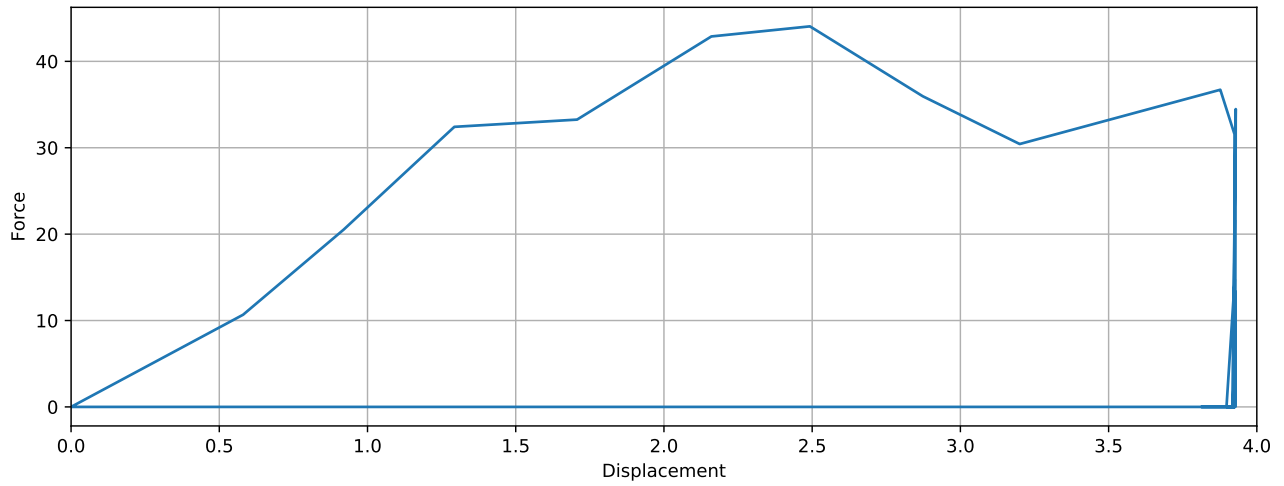


Figure 4.279: Simulated local collision force-displacement

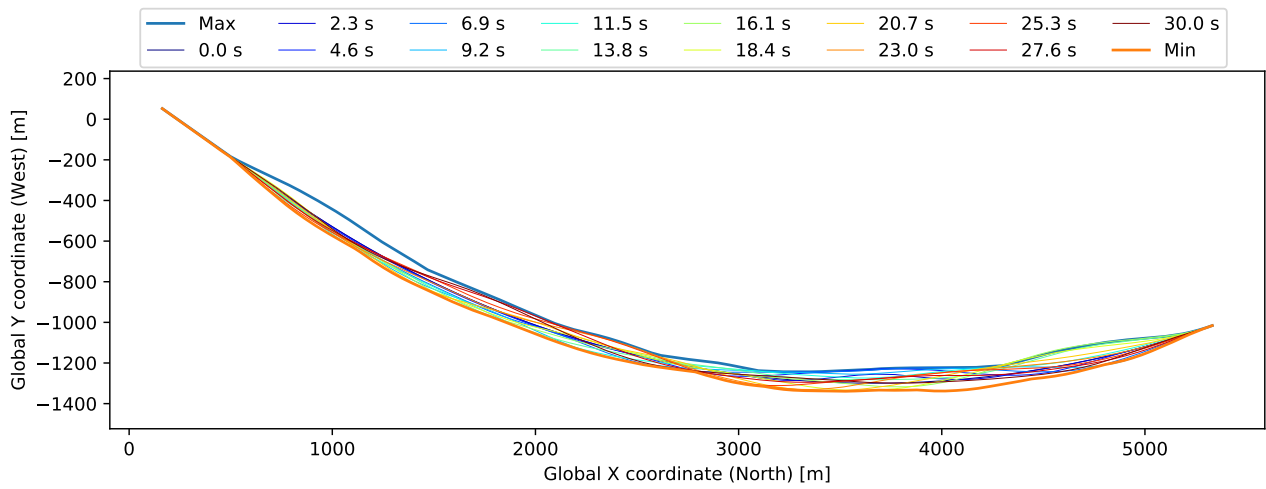


Figure 4.280: Bridgegirder deflection (10x displacement scaling)

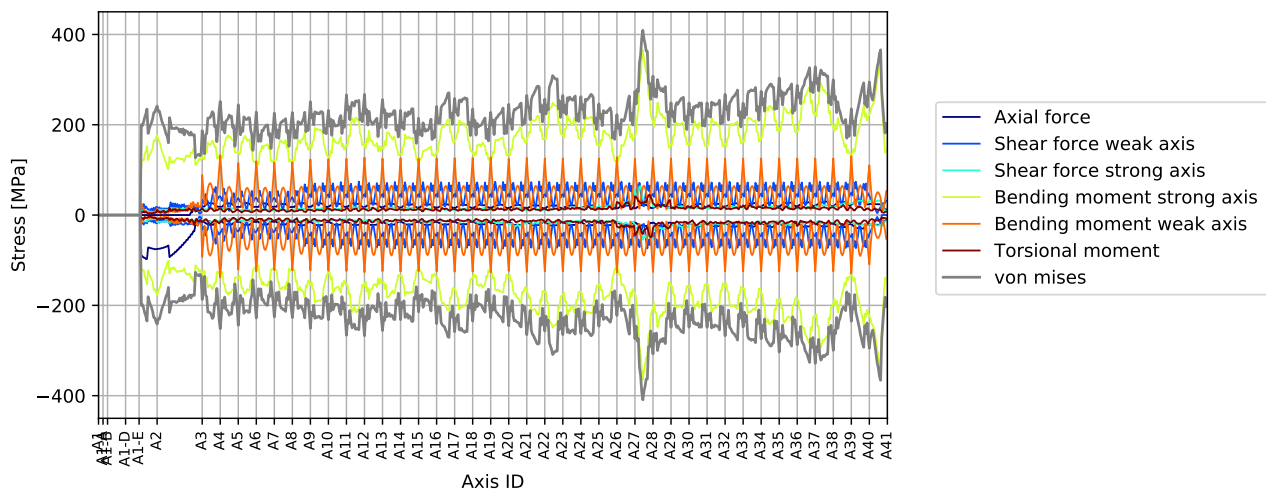


Figure 4.281: Stress envelope from all force components

4.7.2 Envelope plots

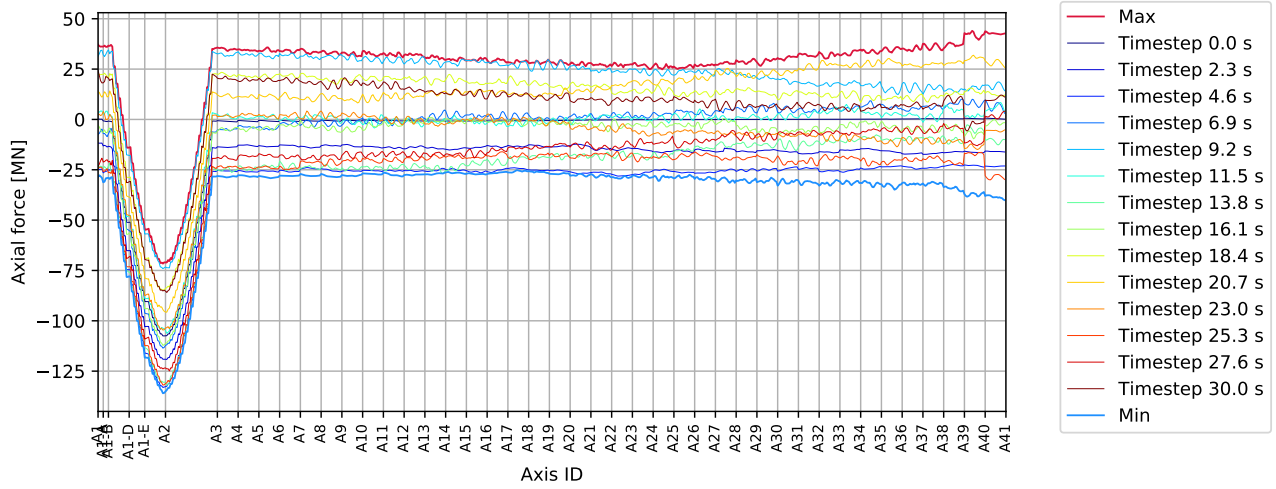


Figure 4.282: DH A27-A28 0deg - bridgегirder : Axial force [MN]

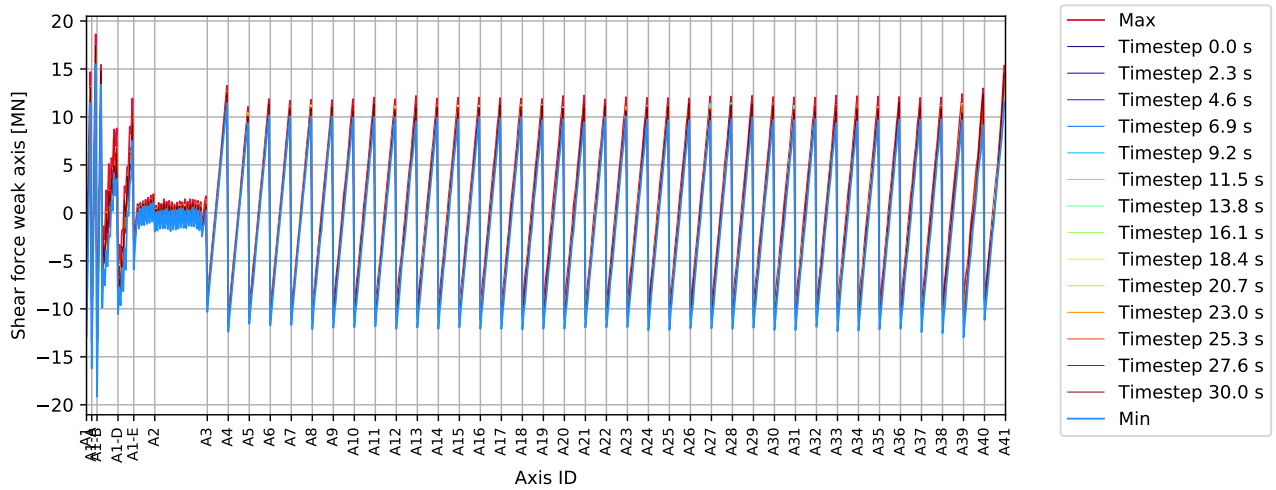


Figure 4.283: DH A27-A28 0deg - bridgегirder : Shear force weak axis [MN]

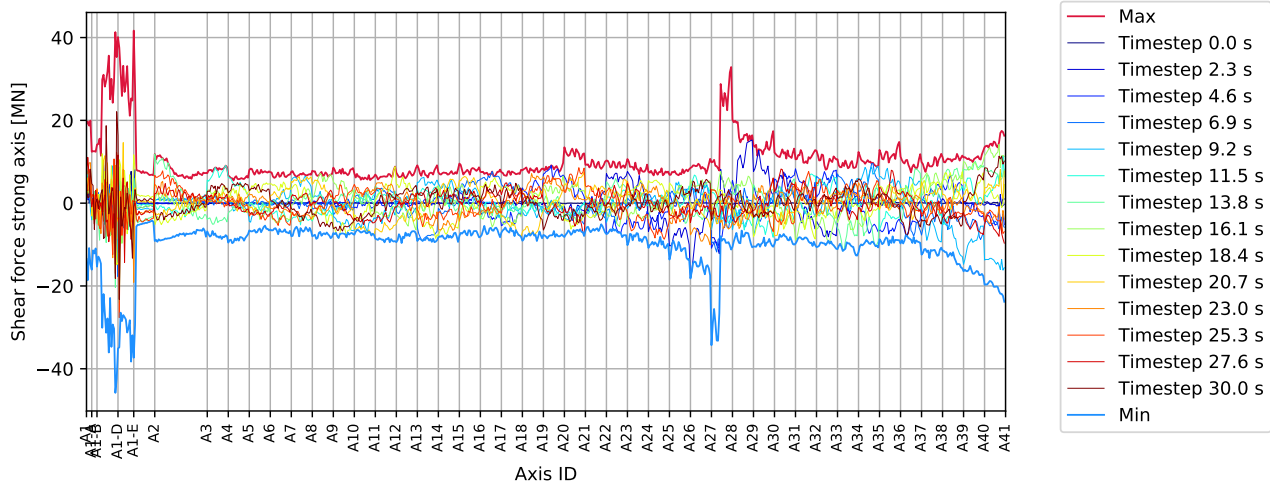


Figure 4.284: DH A27-A28 0deg - bridgegirder : Shear force strong axis [MN]

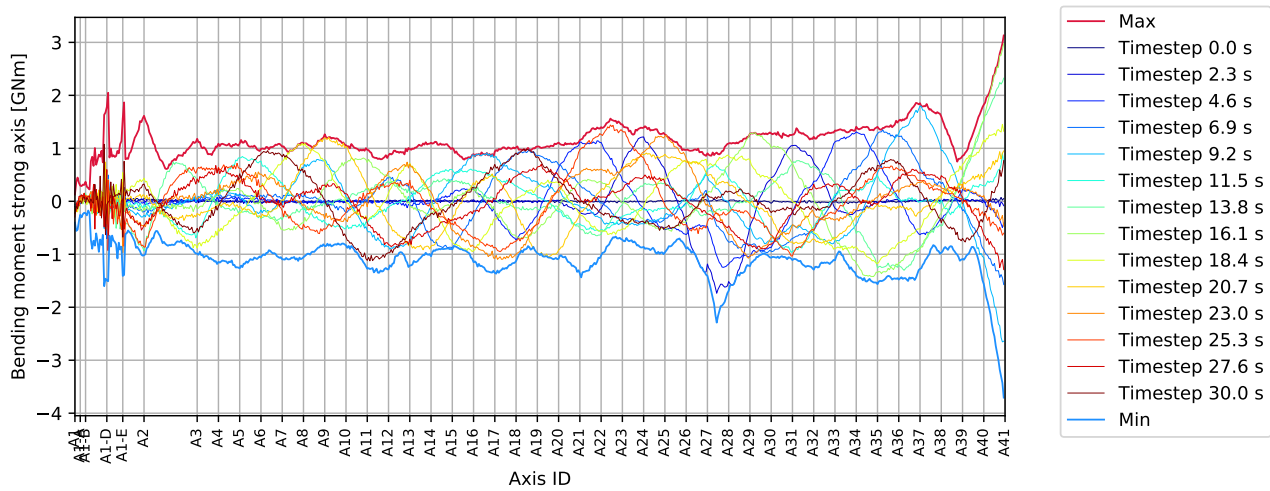


Figure 4.285: DH A27-A28 0deg - bridgegirder : Bending moment strong axis [GNm]

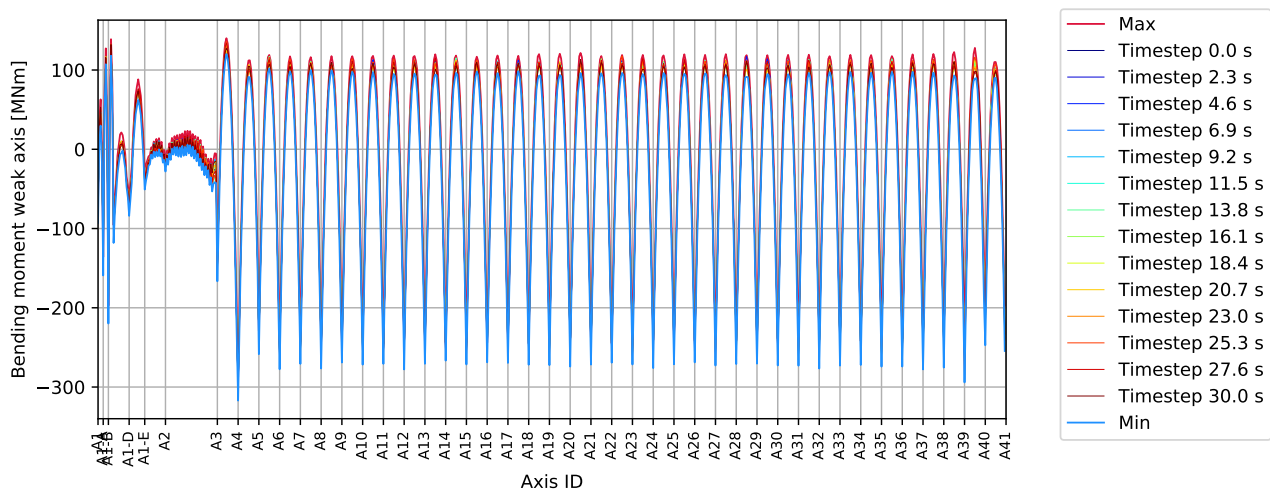


Figure 4.286: DH A27-A28 0deg - bridgegirder : Bending moment weak axis [MNm]

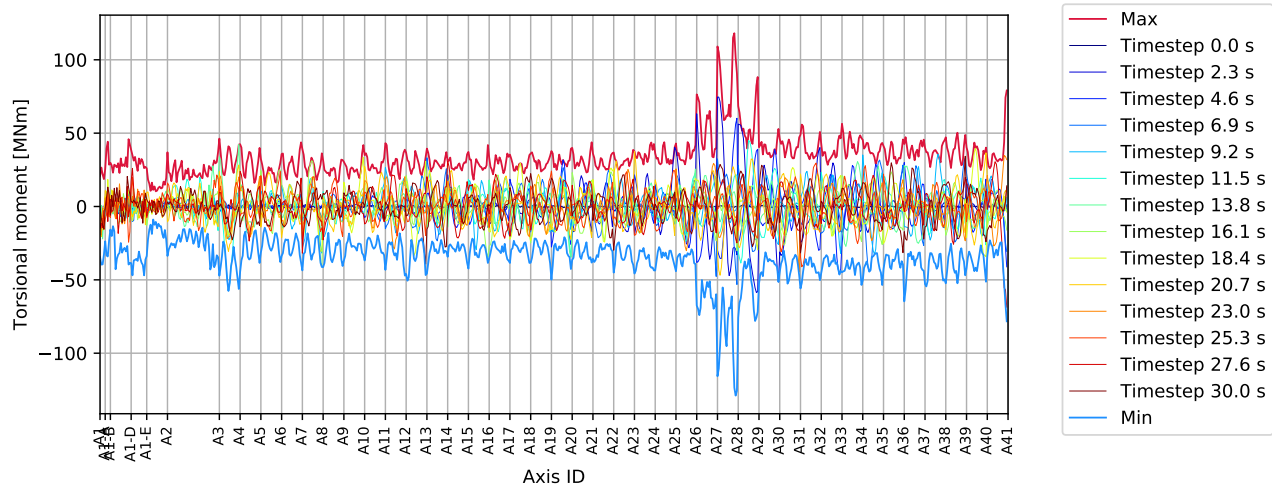


Figure 4.287: DH A27-A28 0deg - bridgegirder : Torsional moment [MNm]

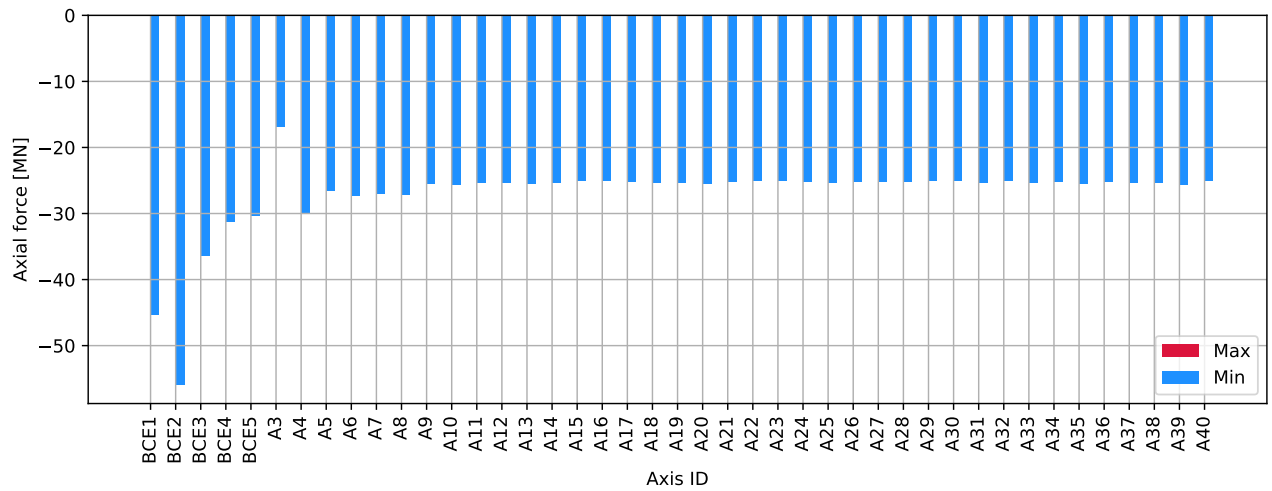


Figure 4.288: DH A27-A28 0deg - columns bottom : Axial force [MN]

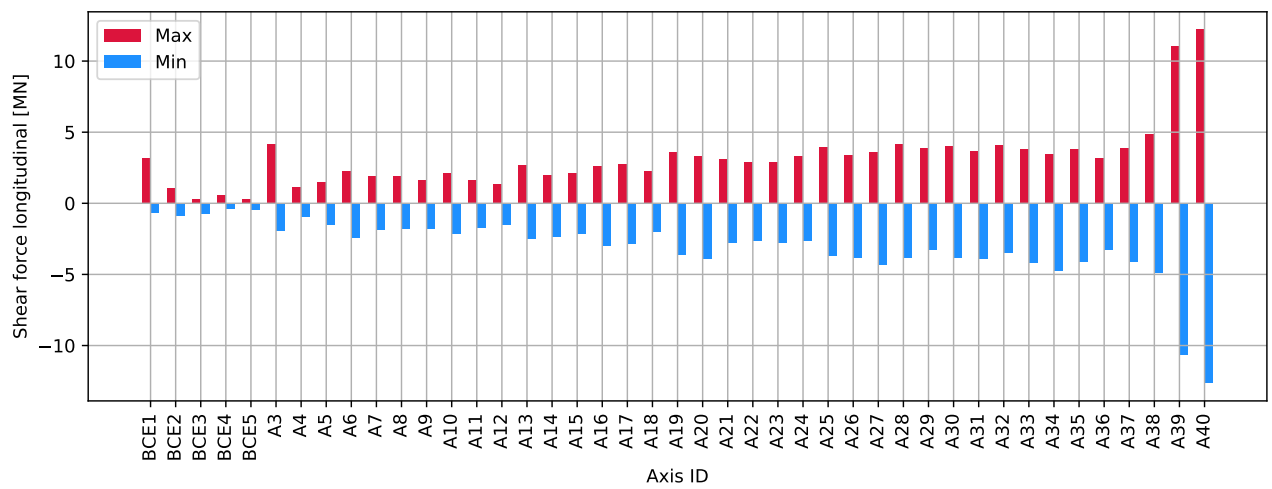


Figure 4.289: DH A27-A28 0deg - columns bottom : Shear force longitudinal [MN]

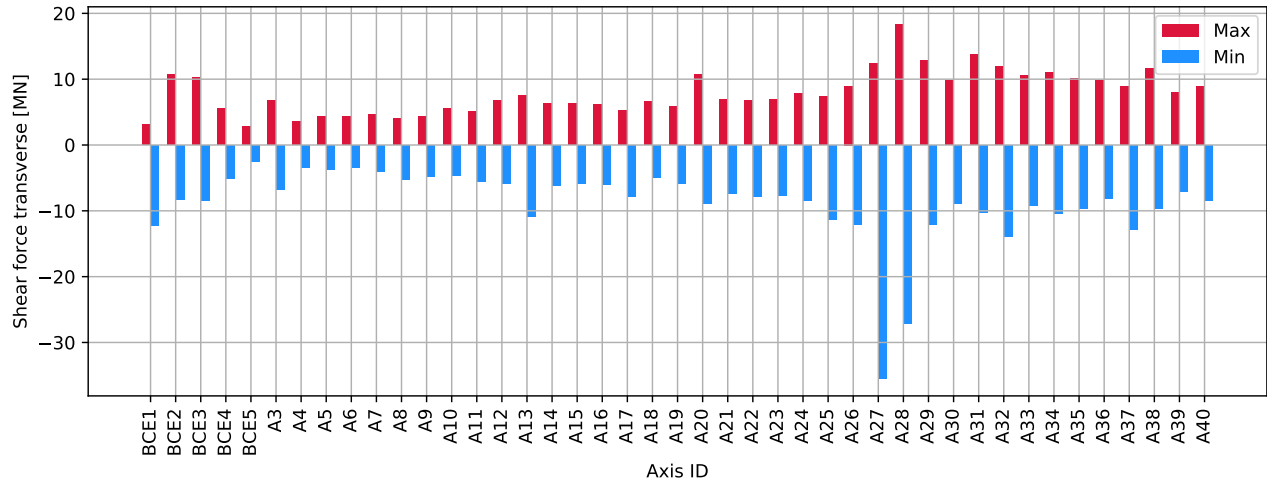


Figure 4.290: DH A27-A28 0deg - columns bottom : Shear force transverse [MN]

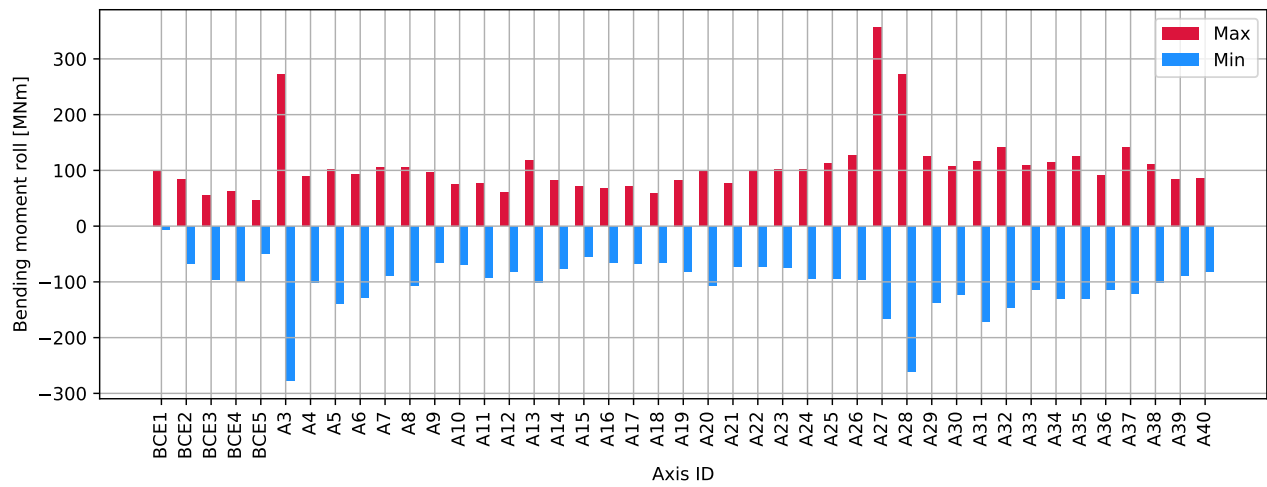


Figure 4.291: DH A27-A28 0deg - columns bottom : Bending moment roll [MNm]

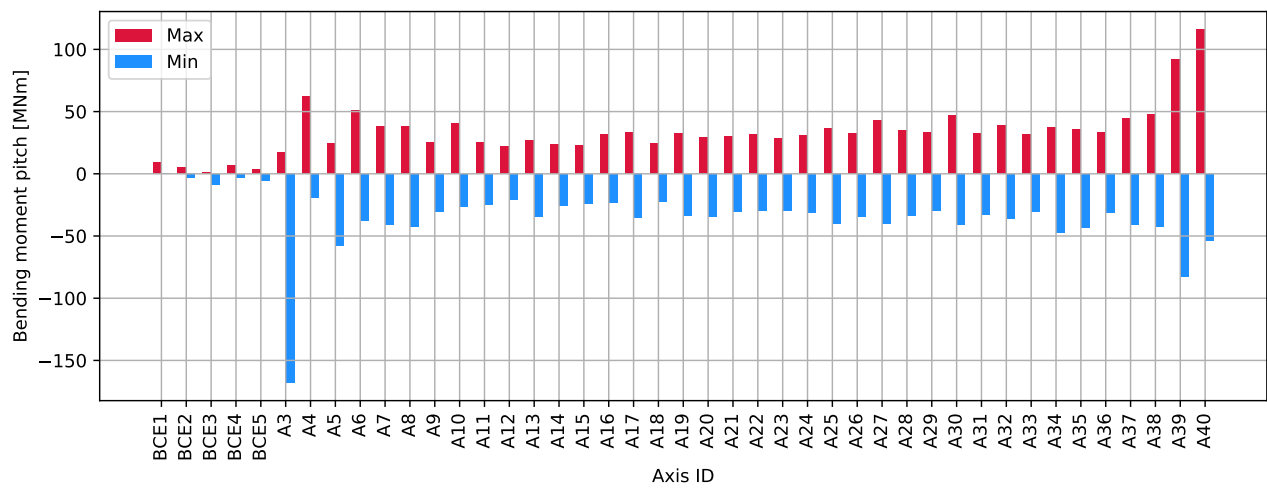


Figure 4.292: DH A27-A28 0deg - columns bottom : Bending moment pitch [MNm]

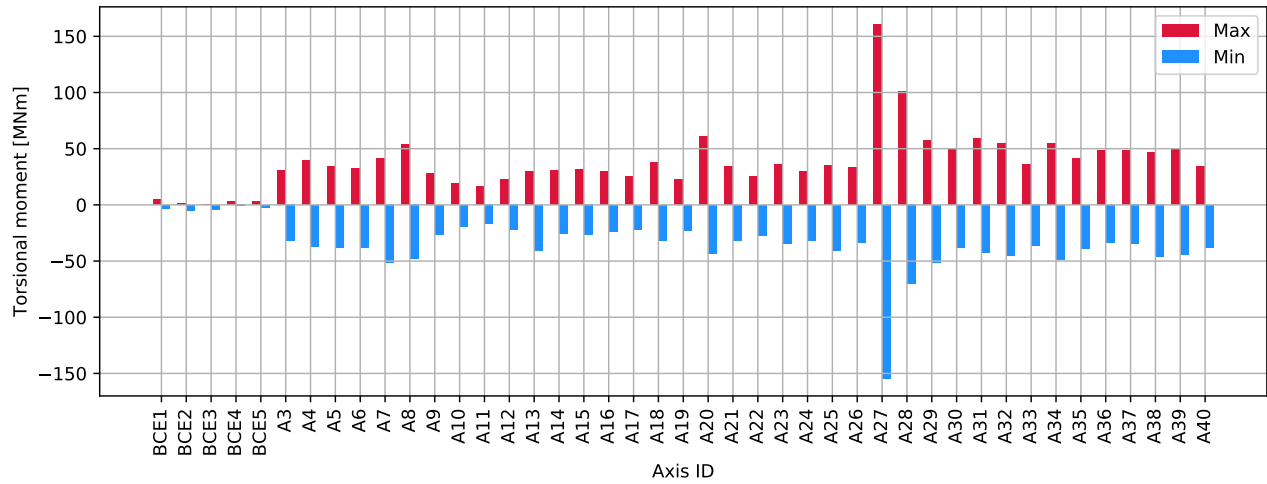


Figure 4.293: DH A27-A28 0deg - columns bottom : Torsional moment [MNm]

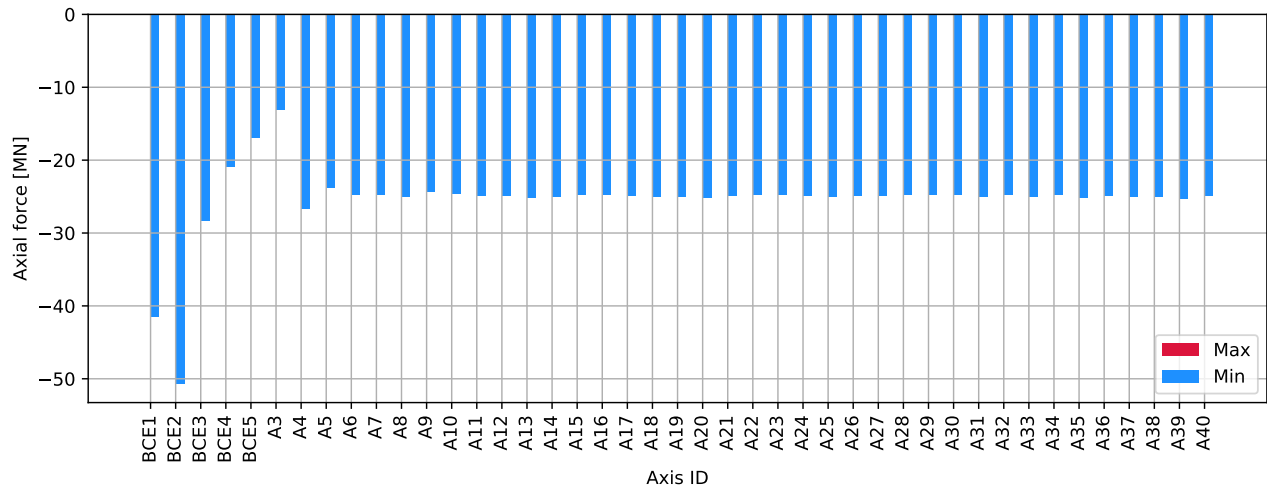


Figure 4.294: DH A27-A28 0deg - columns top : Axial force [MN]

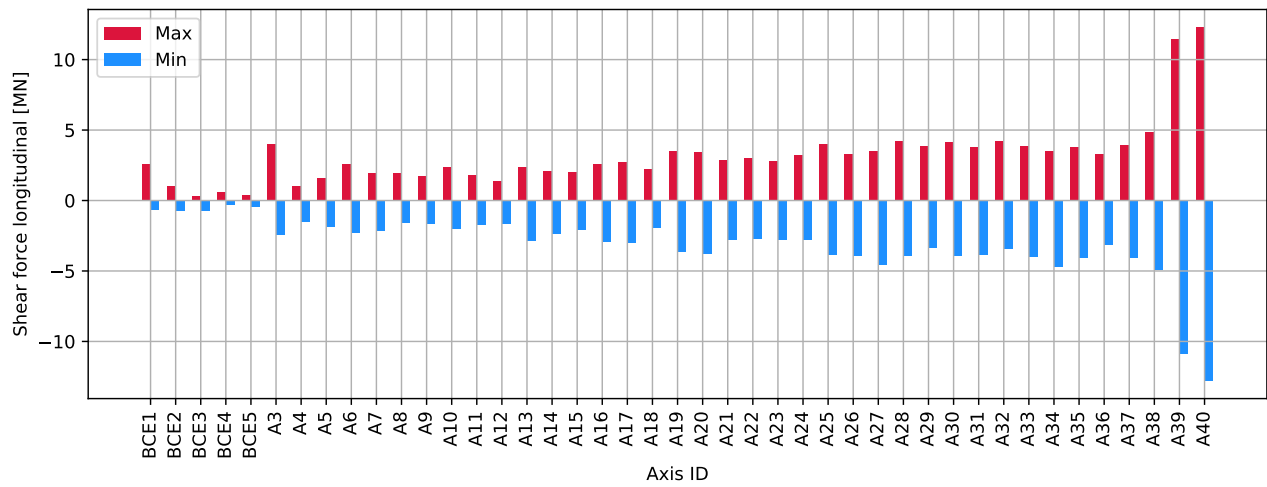


Figure 4.295: DH A27-A28 0deg - columns top : Shear force longitudinal [MN]

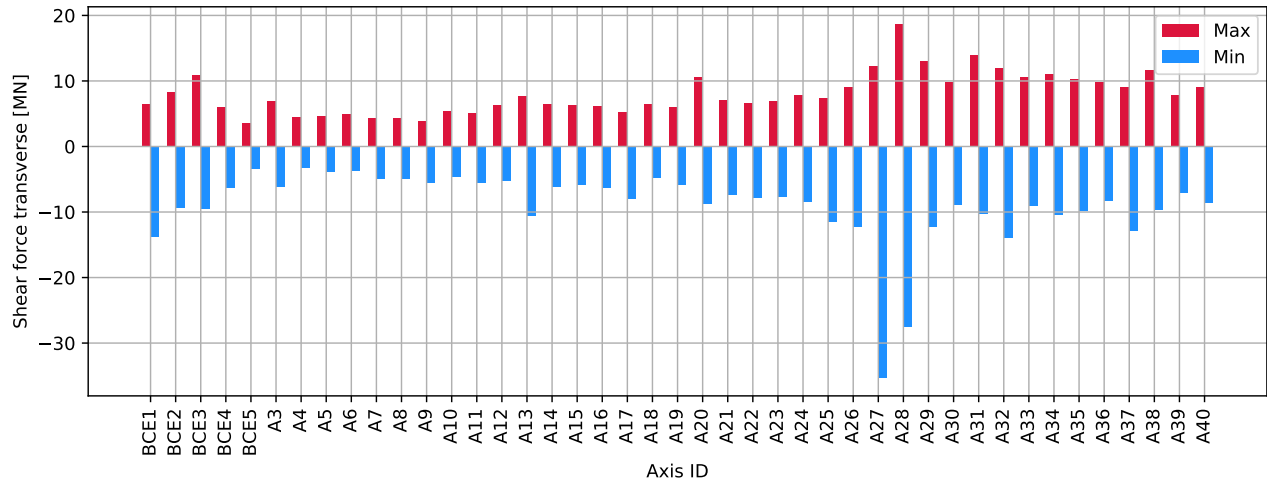


Figure 4.296: DH A27-A28 0deg - columns top : Shear force transverse [MN]

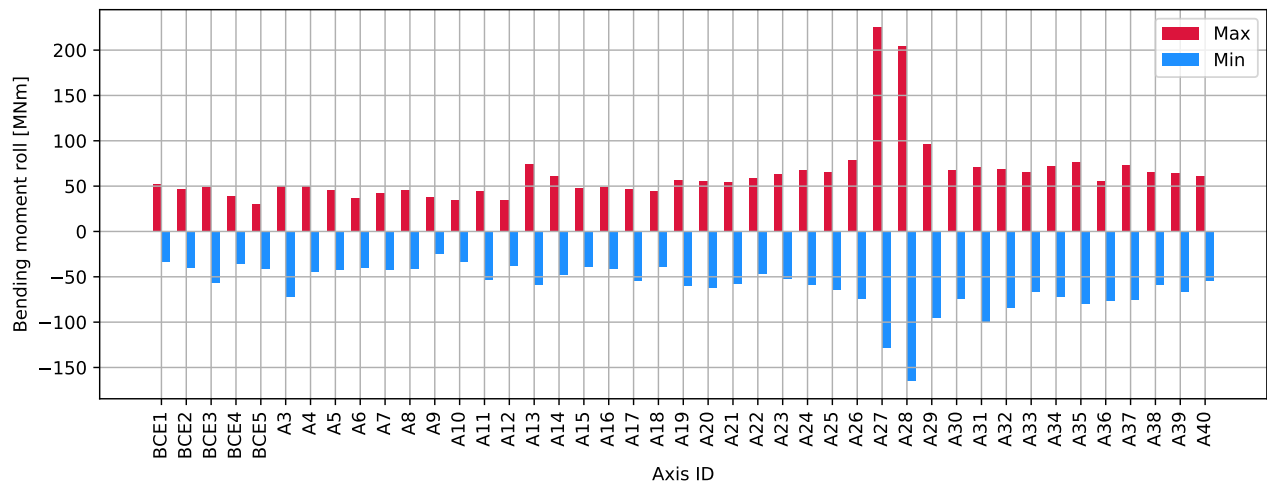


Figure 4.297: DH A27-A28 0deg - columns top : Bending moment roll [MNm]

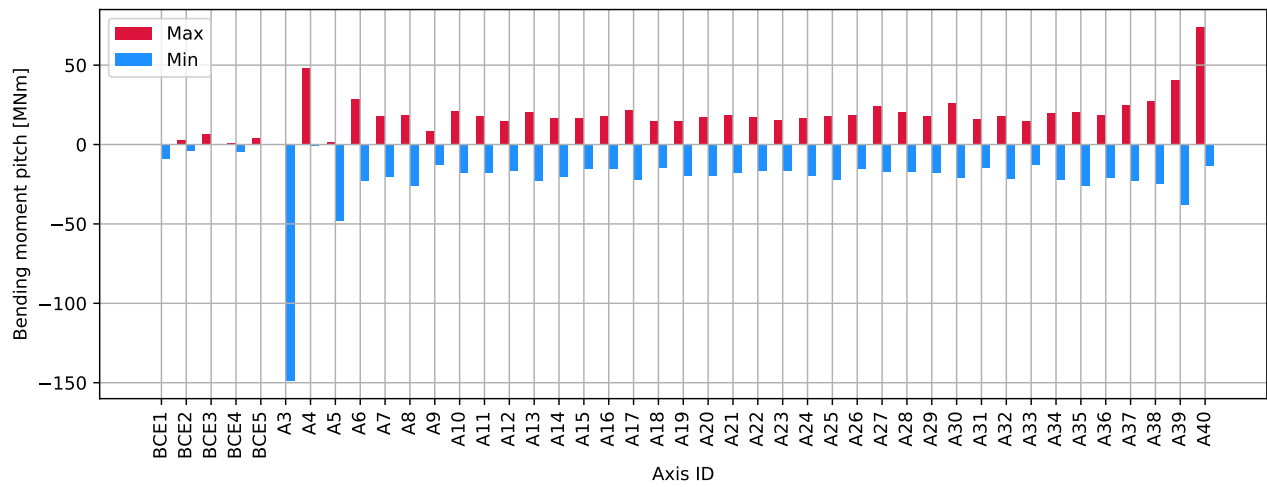


Figure 4.298: DH A27-A28 0deg - columns top : Bending moment pitch [MNm]

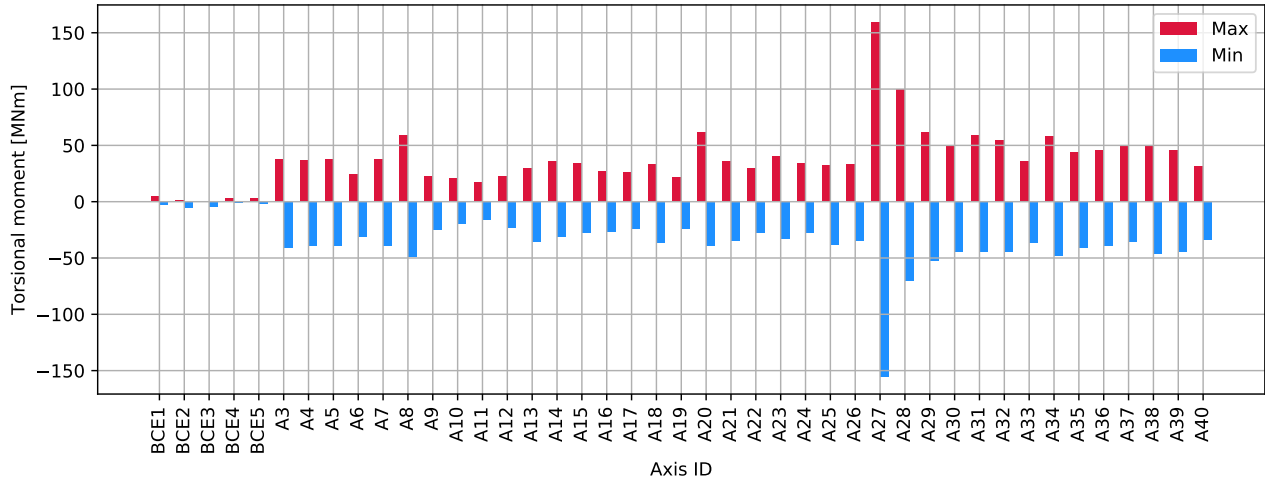


Figure 4.299: DH A27-A28 0deg - columns top : Torsional moment [MNm]

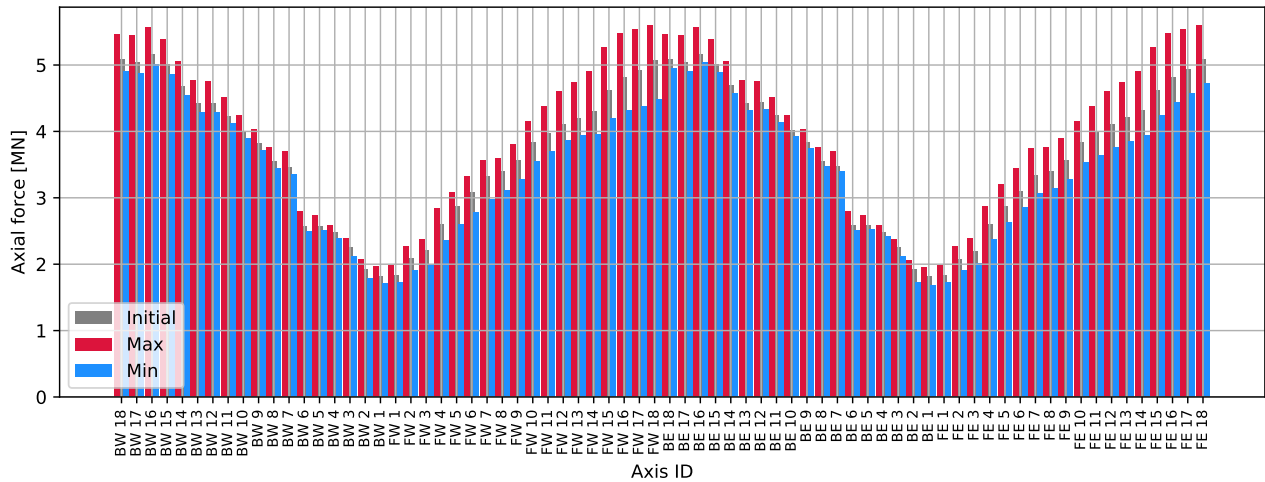


Figure 4.300: DH A27-A28 0deg - cables : Axial force [MN]

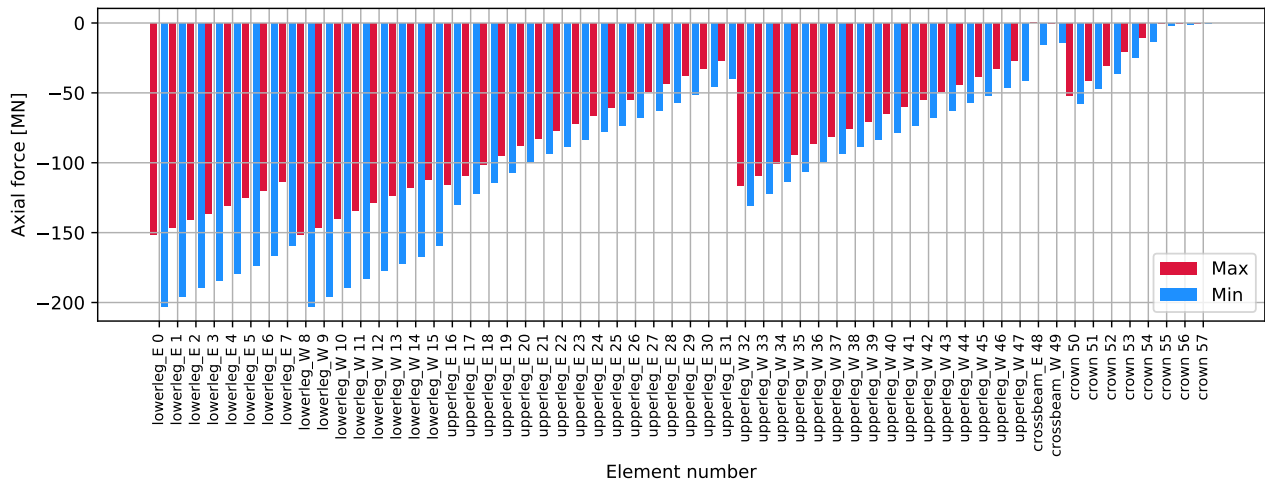


Figure 4.301: DH A27-A28 0deg - tower: Axial force [MN]

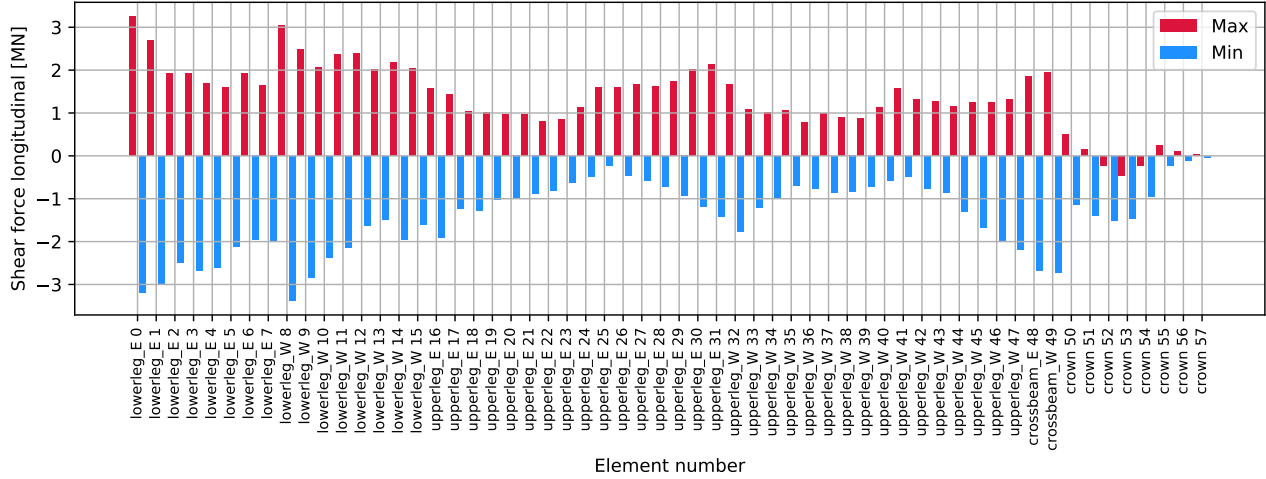


Figure 4.302: DH A27-A28 0deg - tower: Shear force longitudinal [MN]

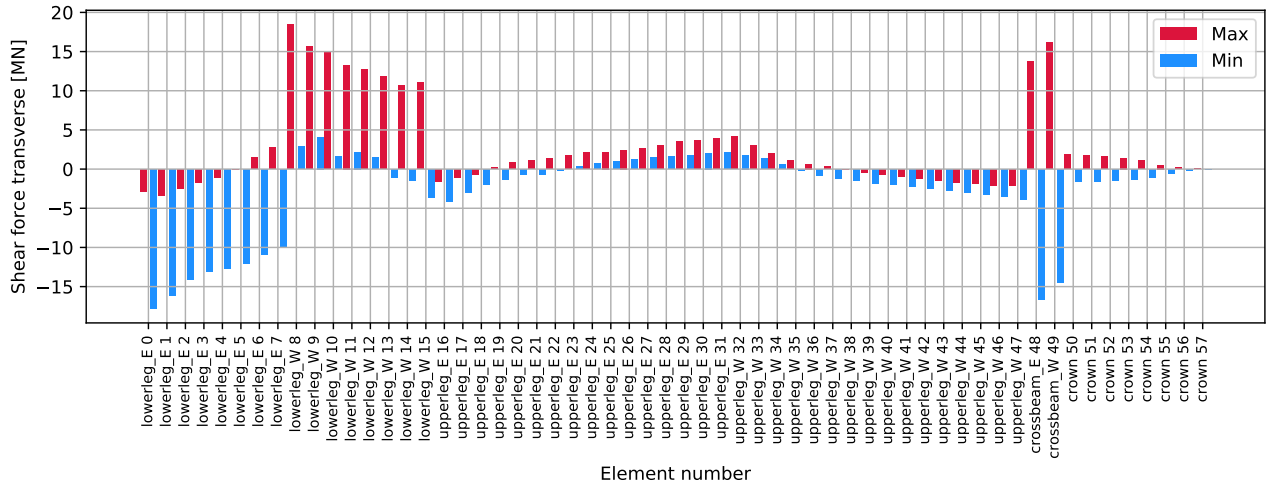


Figure 4.303: DH A27-A28 0deg - tower: Shear force transverse [MN]

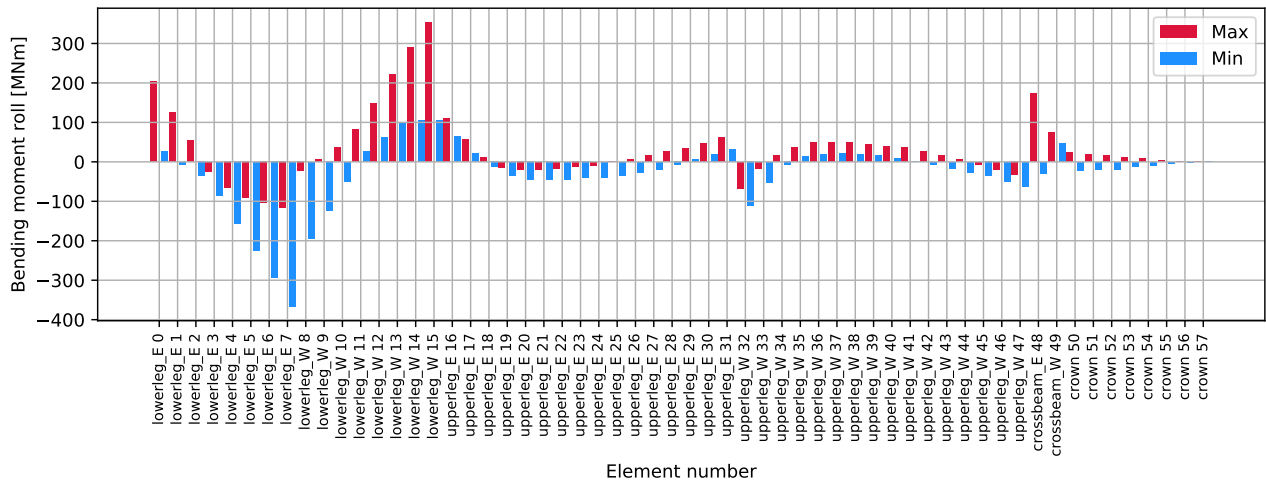


Figure 4.304: DH A27-A28 0deg - tower: Bending moment roll [MNm]

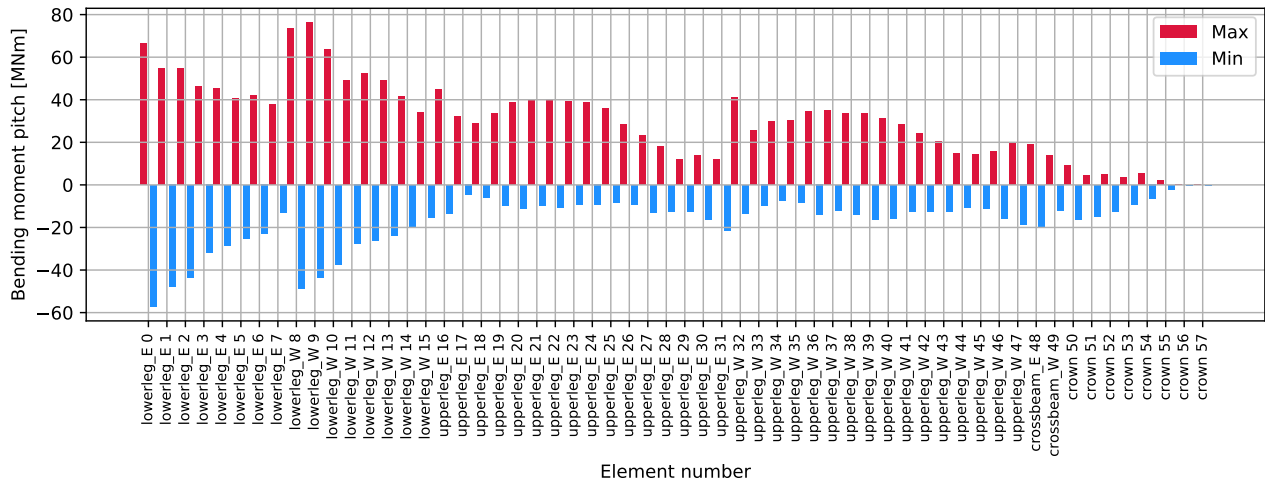


Figure 4.305: DH A27-A28 0deg - tower: Bending moment pitch [MNm]

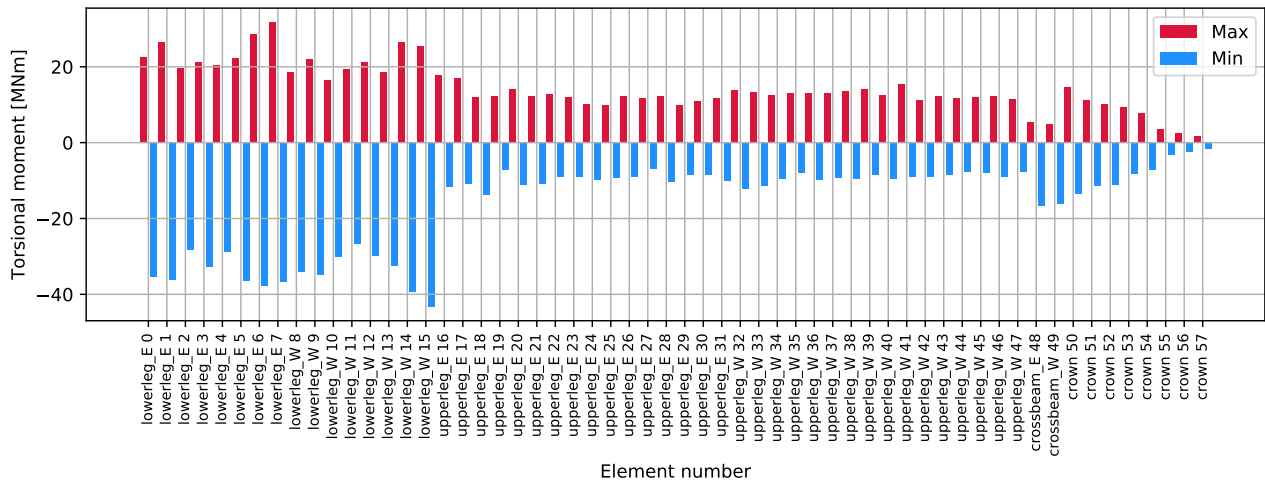


Figure 4.306: DH A27-A28 0deg - tower: Torsional moment [MNm]

4.7.3 Time series

Note : Time series are filtered using a Savitzky-Golay filter for increased readability of the time history plots. Hence, maximum values that occur due to a rapid vibration are not shown in the plots. For maximum values, refer to the tabulated data.

All elements are numbered from South to North, bottom to top

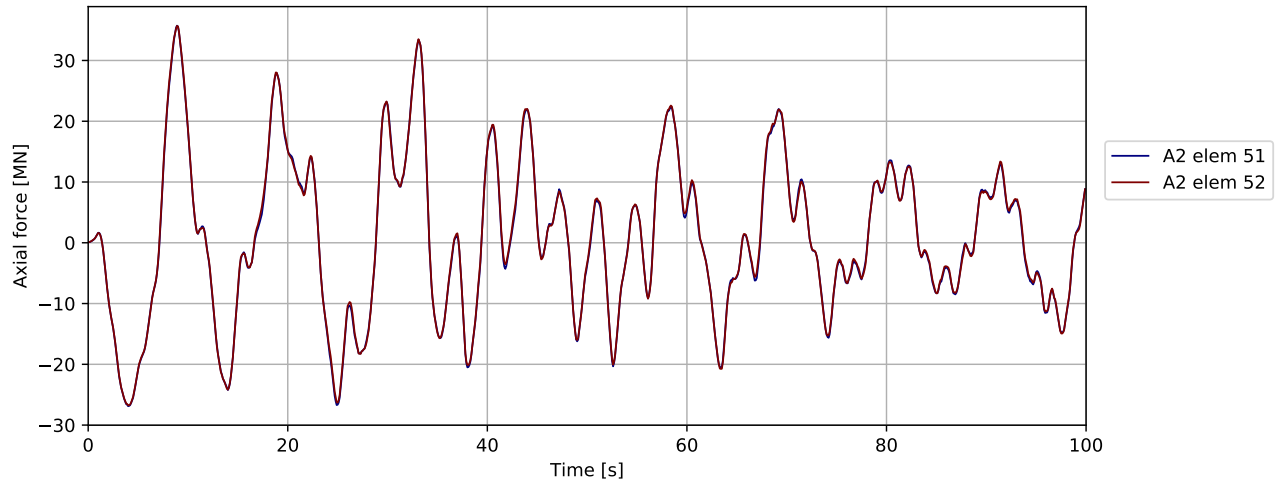


Figure 4.307: DH A27-A28 0deg - bridgegirder @ pylon: Axial force [MN]

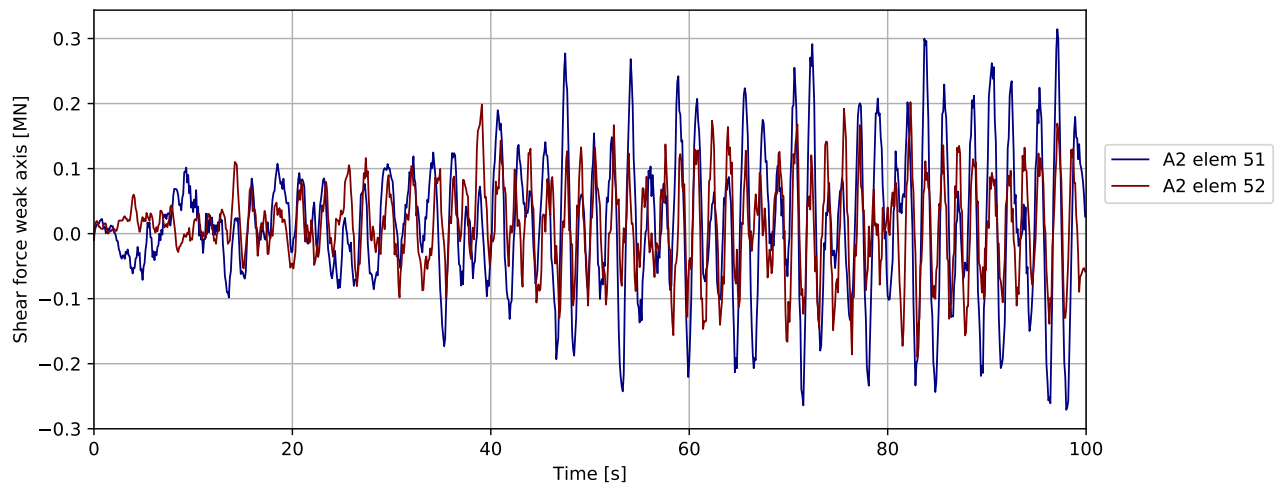


Figure 4.308: DH A27-A28 0deg - bridgegirder @ pylon: Shear force weak axis [MN]

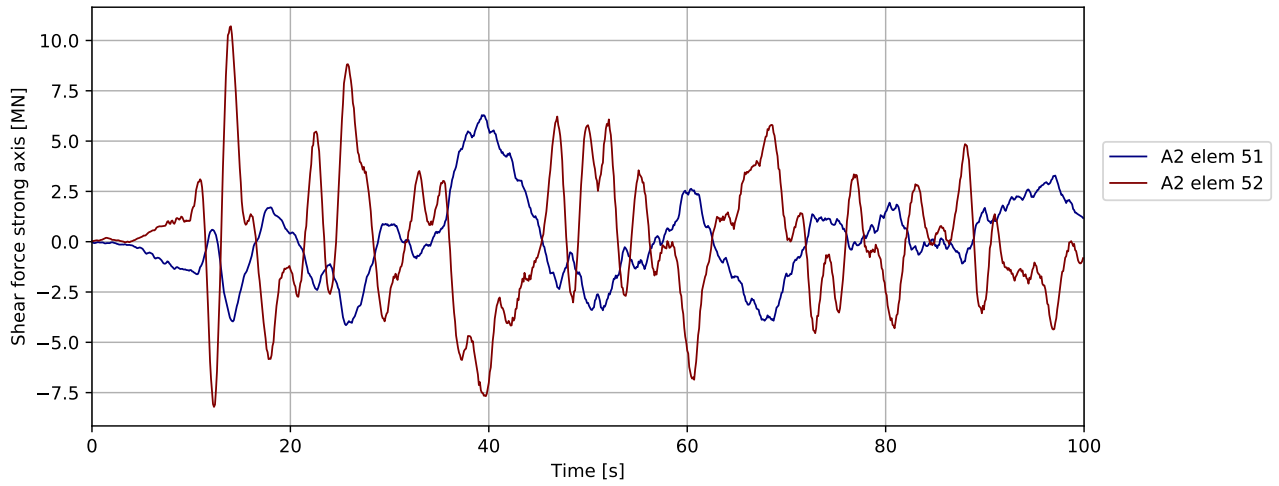


Figure 4.309: DH A27-A28 0deg - bridgegirder @ pylon: Shear force strong axis [MN]

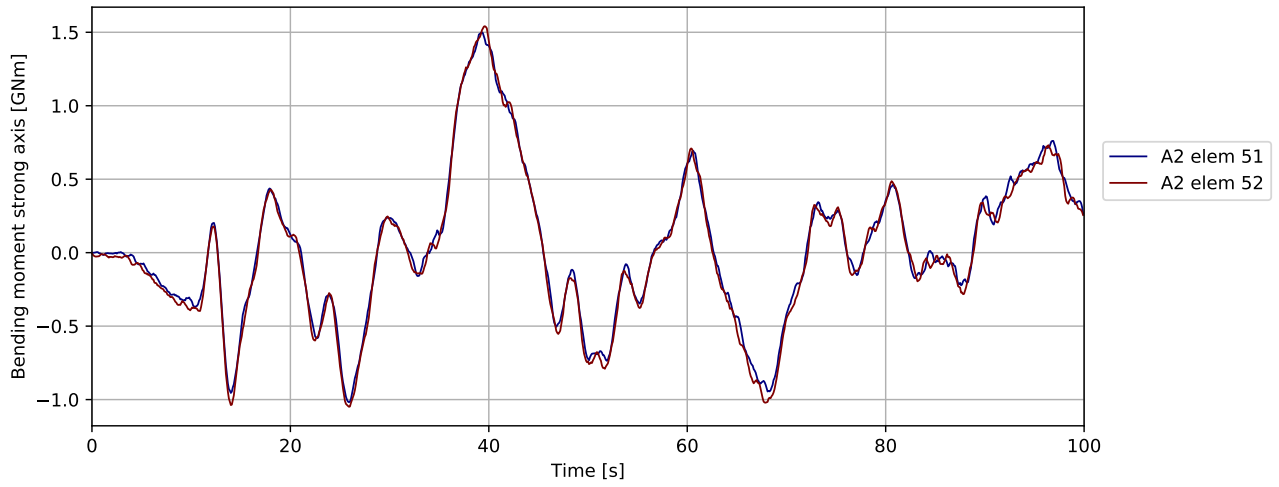


Figure 4.310: DH A27-A28 0deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

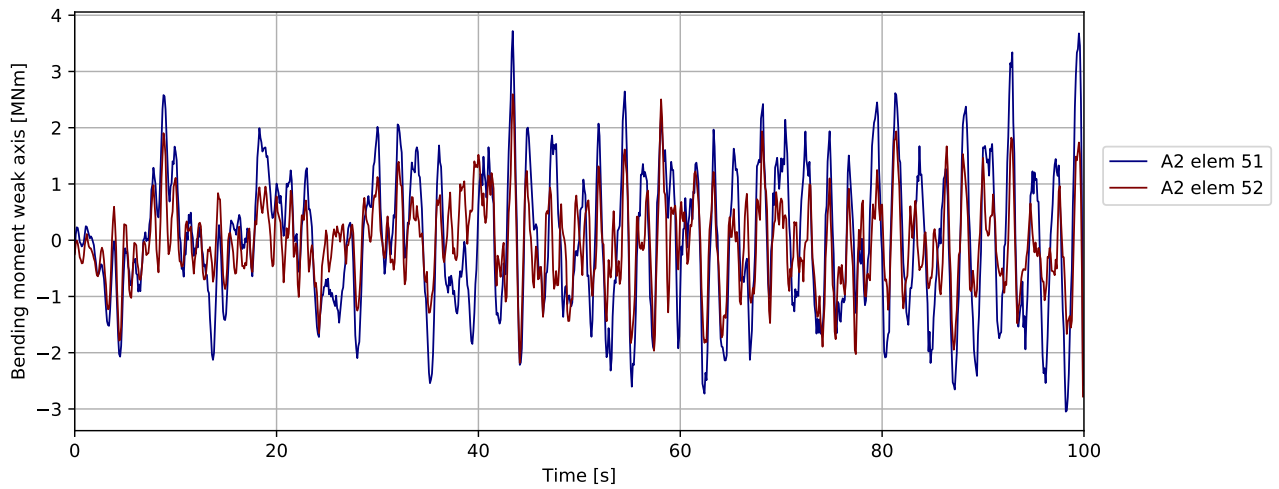


Figure 4.311: DH A27-A28 0deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

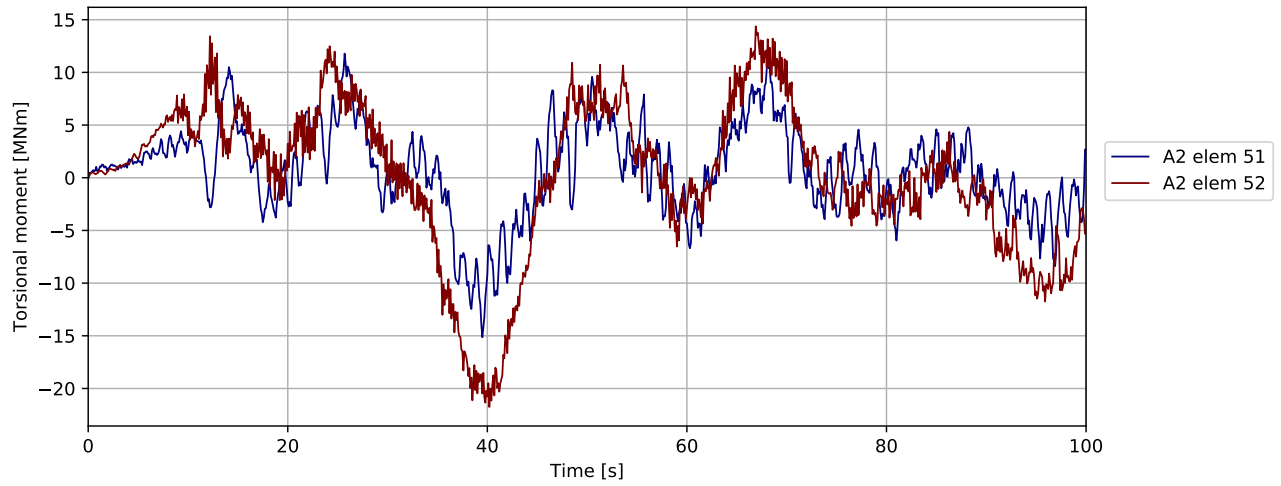


Figure 4.312: DH A27-A28 0deg - bridgegirder @ pylon: Torsional moment [MNm]

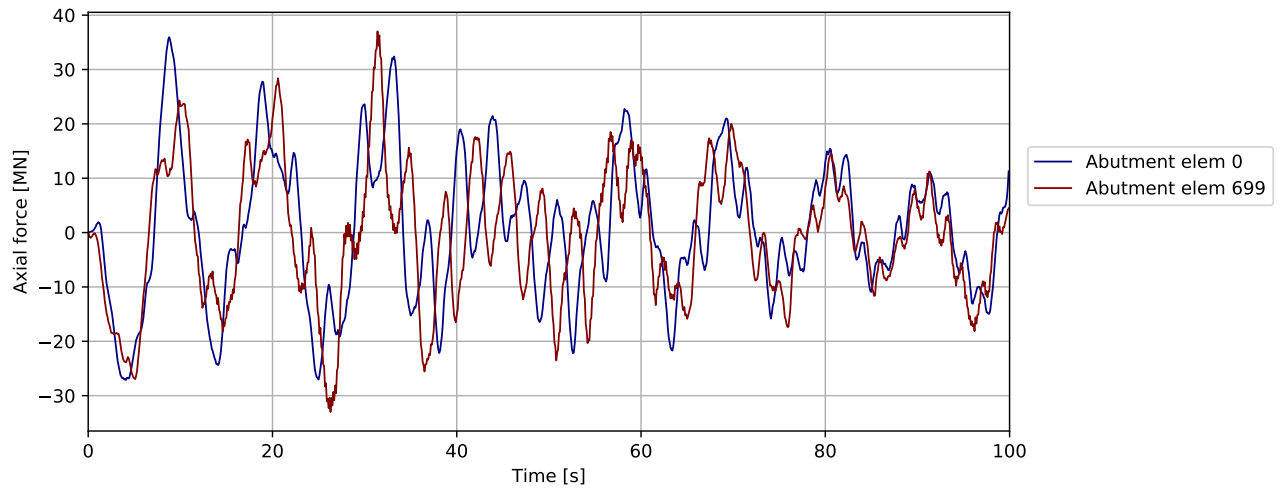


Figure 4.313: DH A27-A28 0deg - bridgegirder @abutments: Axial force [MN]

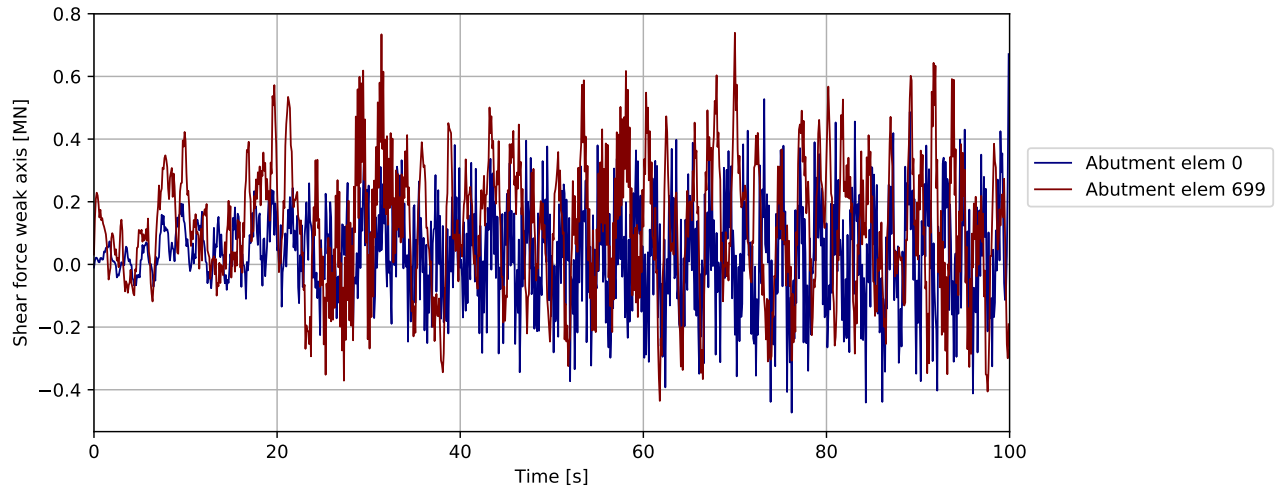


Figure 4.314: DH A27-A28 0deg - bridgegirder @abutments: Shear force weak axis [MN]

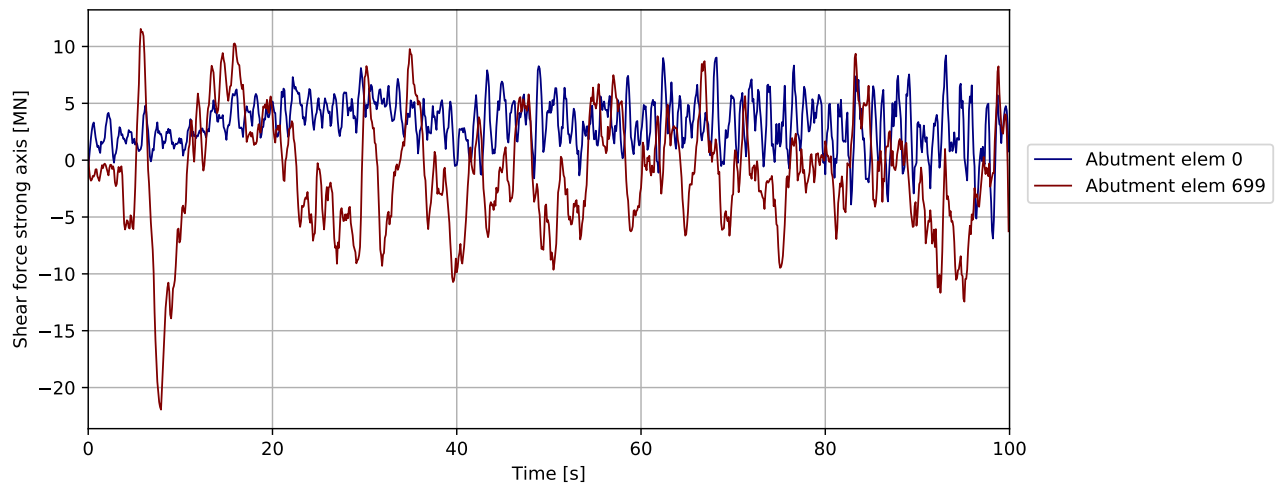


Figure 4.315: DH A27-A28 0deg - bridgegirder @abutments: Shear force strong axis [MN]

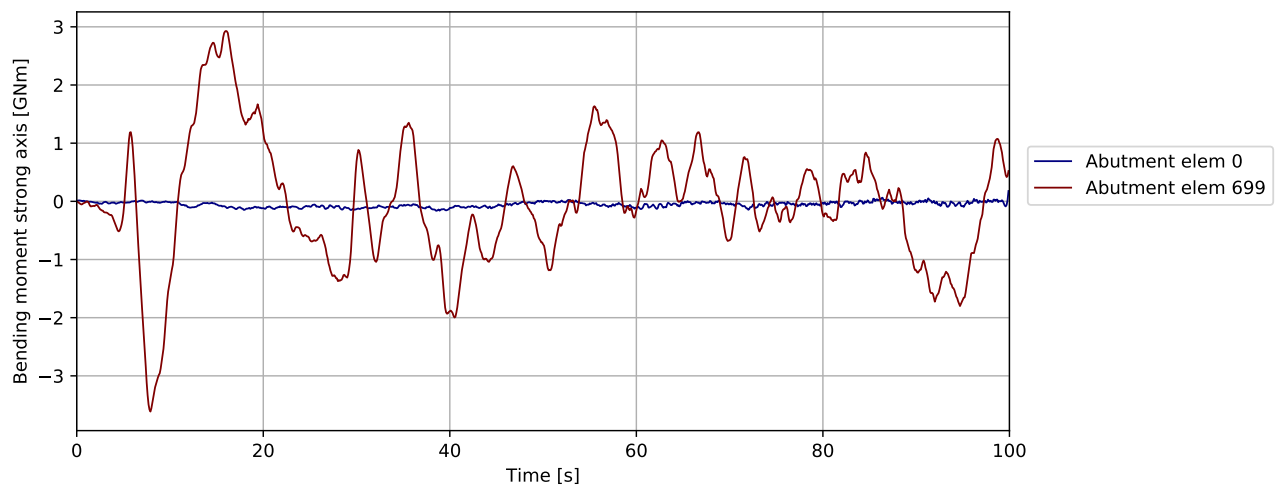


Figure 4.316: DH A27-A28 0deg - bridgegirder @abutments: Bending moment strong axis [GNm]

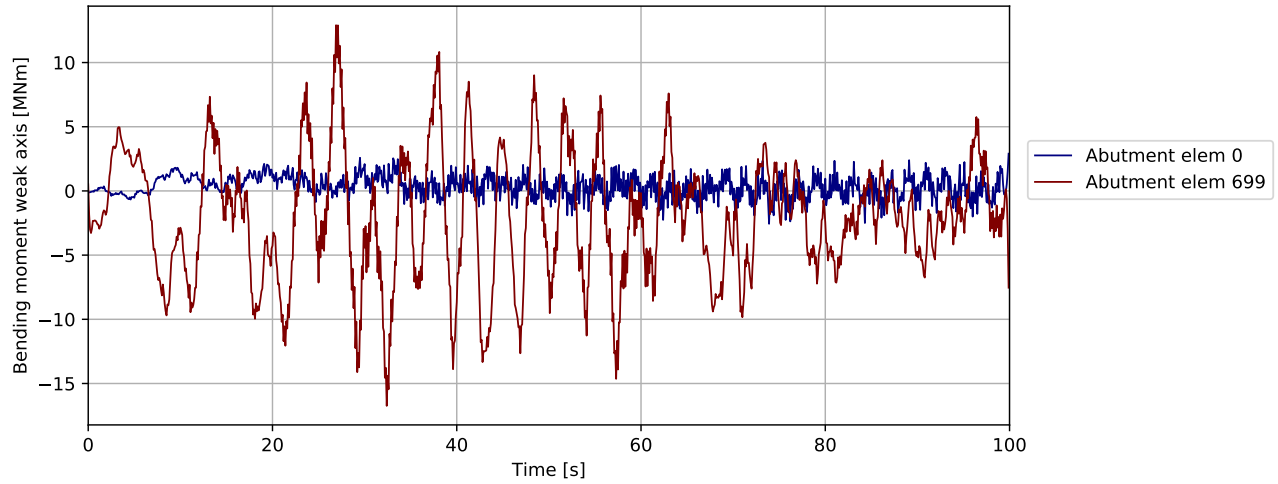


Figure 4.317: DH A27-A28 0deg - bridgegirder @abutments: Bending moment weak axis [MNm]

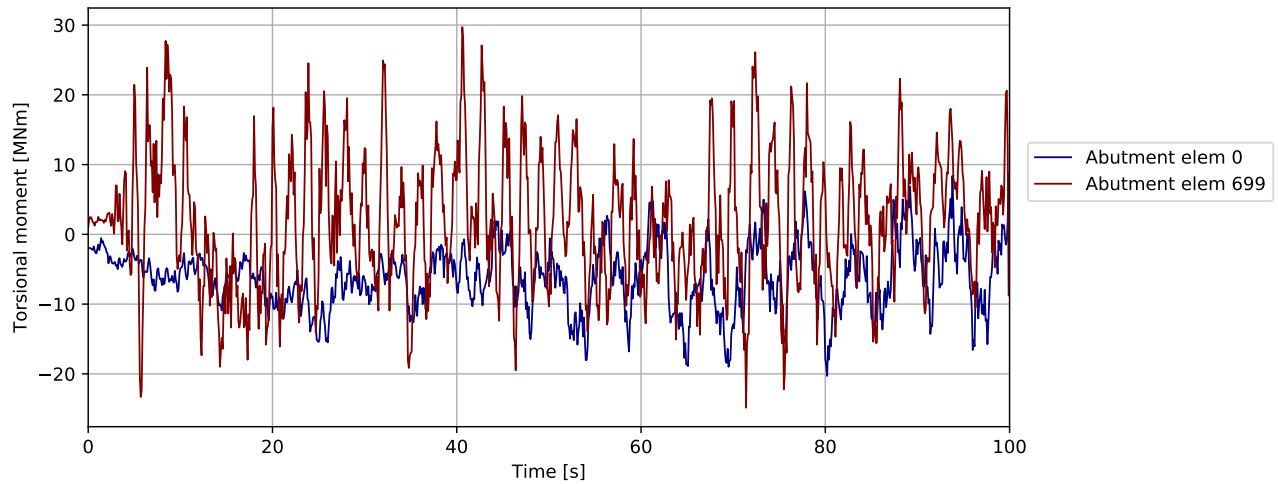


Figure 4.318: DH A27-A28 0deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

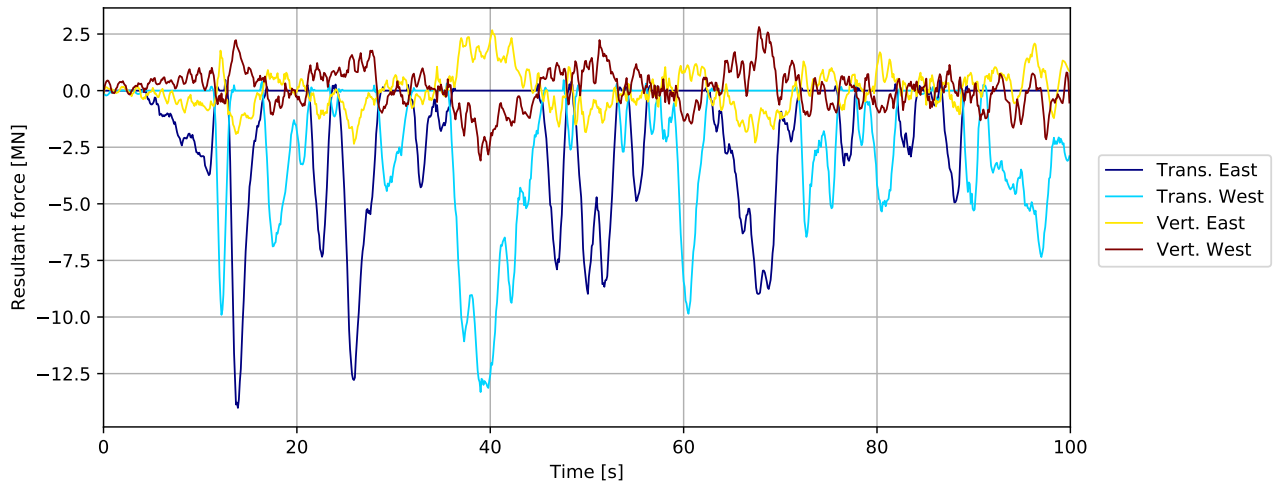


Figure 4.319: DH A27-A28 0deg - bridgegirder supports in tower: Resultant force [MN]

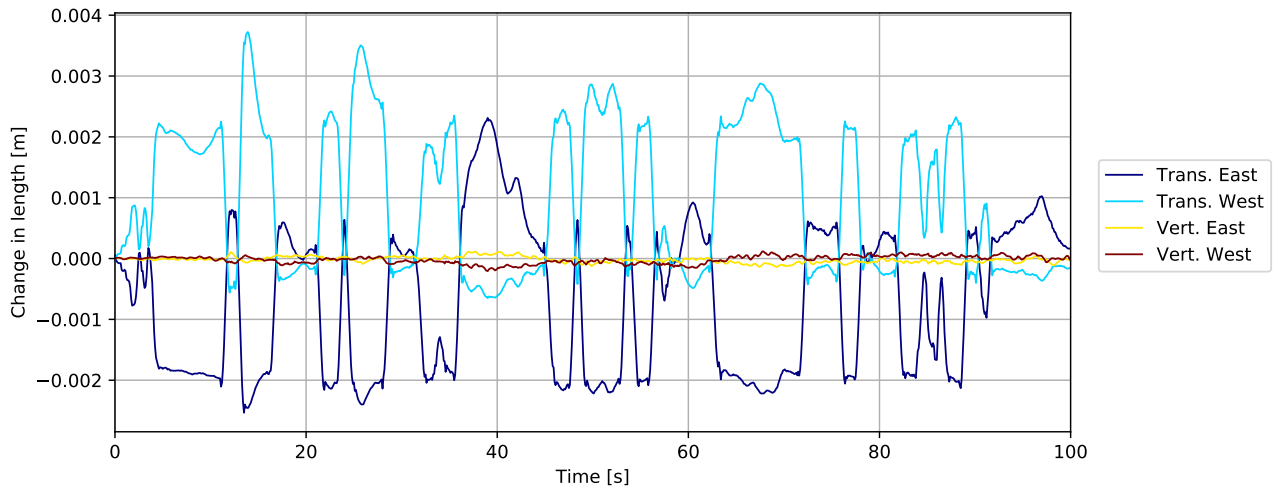


Figure 4.320: DH A27-A28 0deg - bridgegirder supports in tower: Change in length [m]

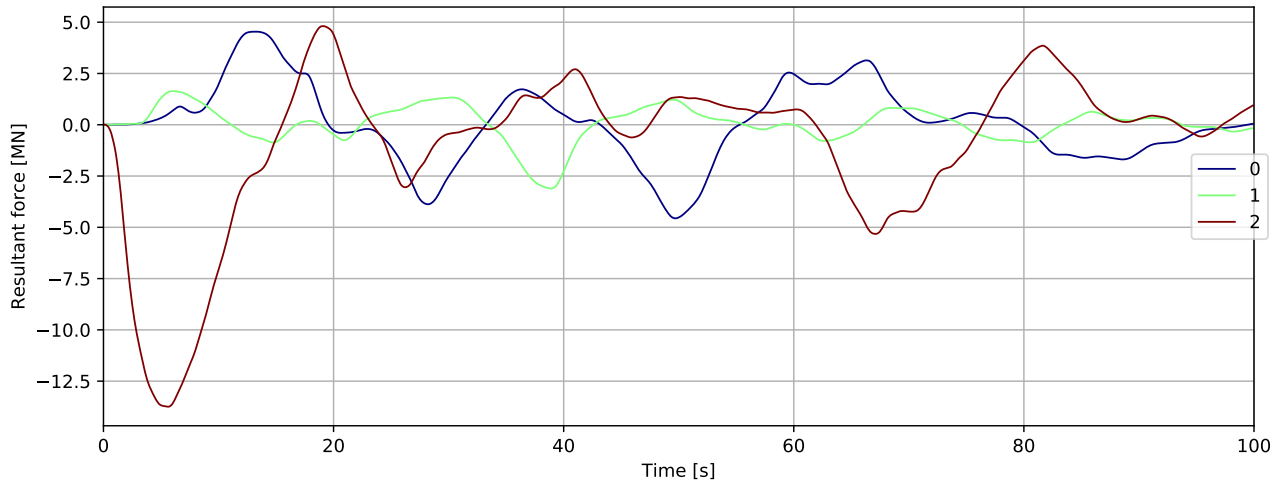


Figure 4.321: Mooring force

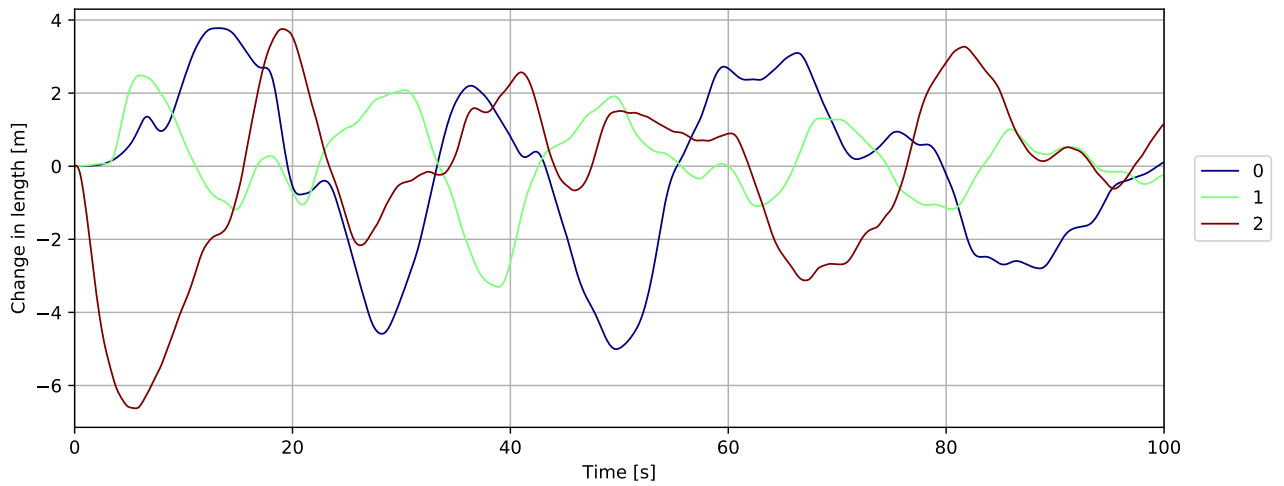


Figure 4.322: Mooring displacement

4.8 Deck house A30-A31 0deg

4.8.1 Overall response

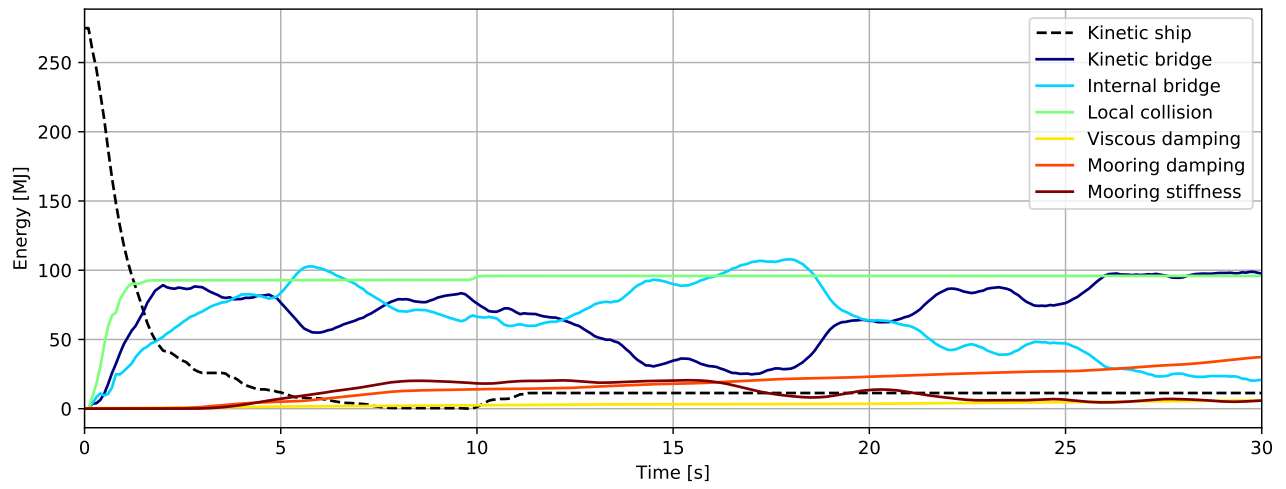


Figure 4.323: Energy [MJ] - initial phase

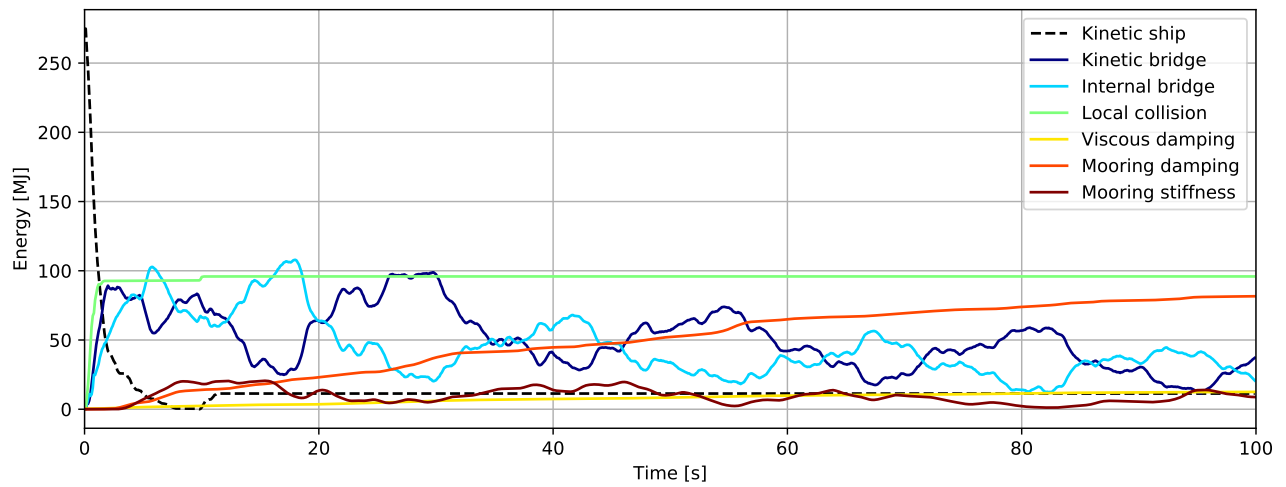


Figure 4.324: Energy [MJ]

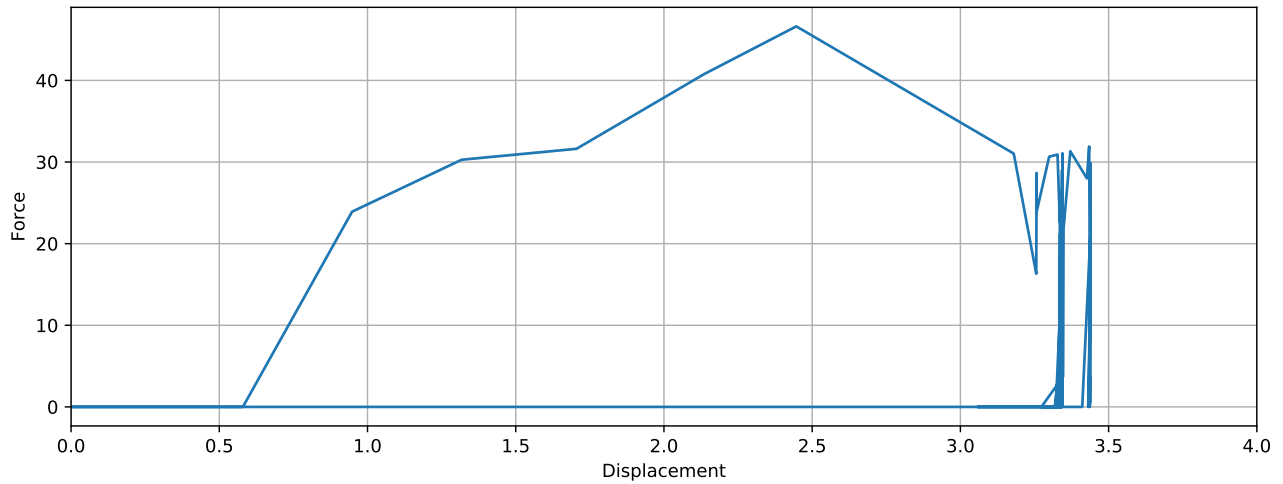


Figure 4.325: Simulated local collision force-displacement

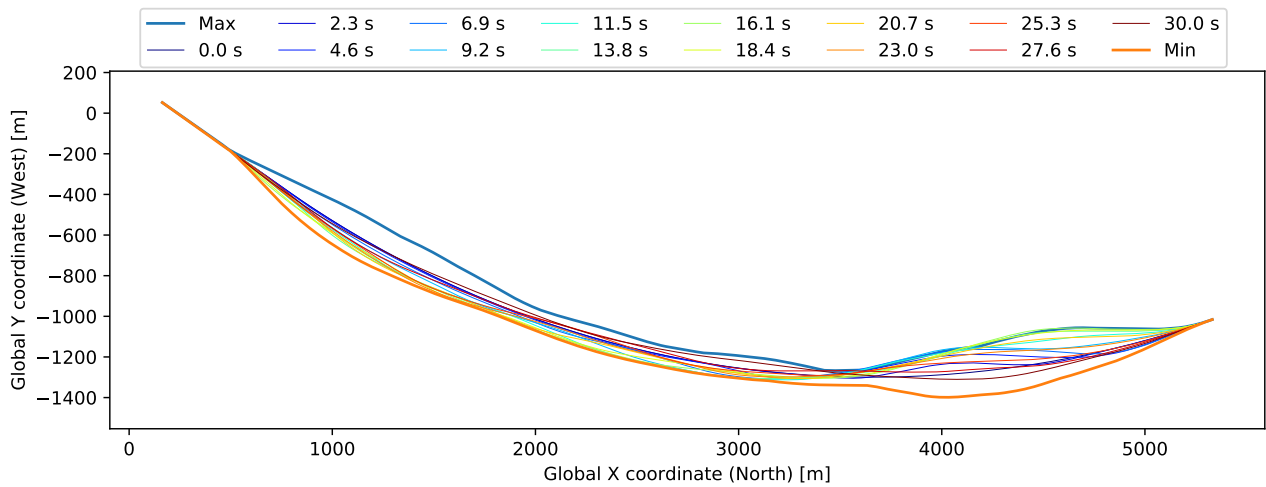


Figure 4.326: Bridgegirder deflection (10x displacement scaling)

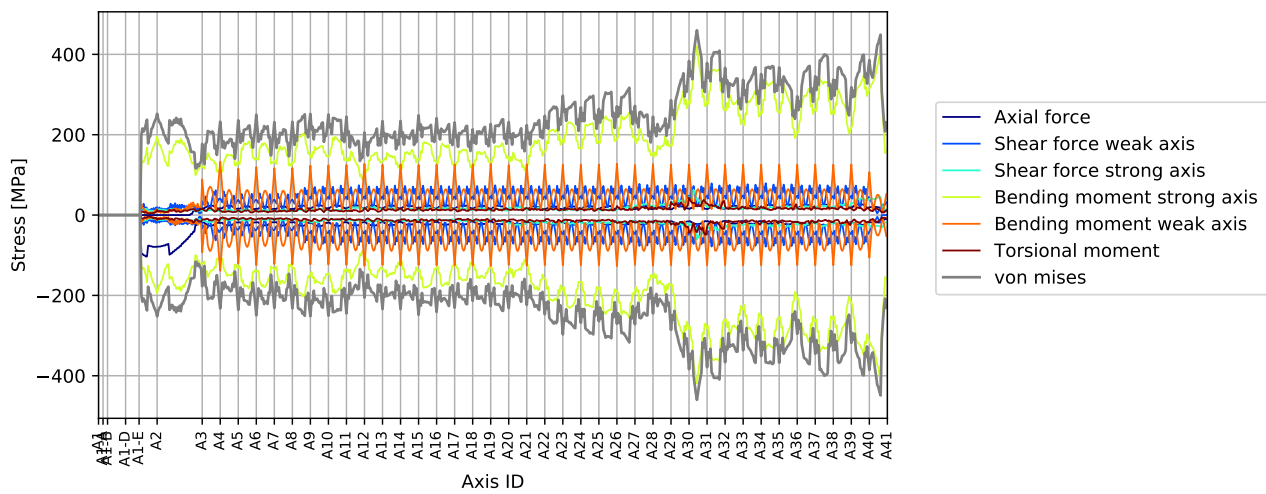


Figure 4.327: Stress envelope from all force components

4.8.2 Envelope plots

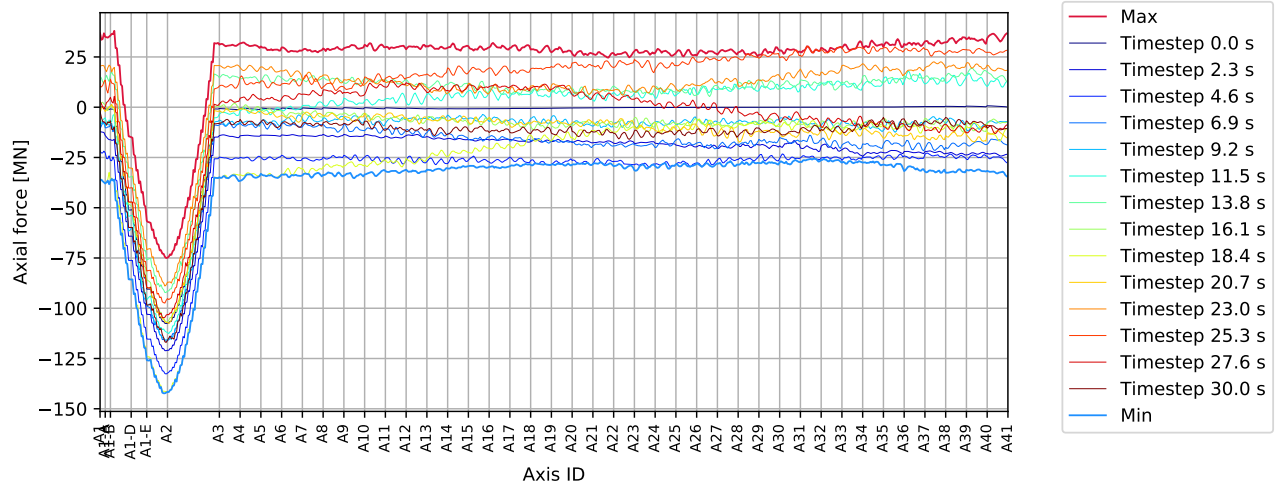


Figure 4.328: DH A30-A31 0deg - bridgегirder : Axial force [MN]

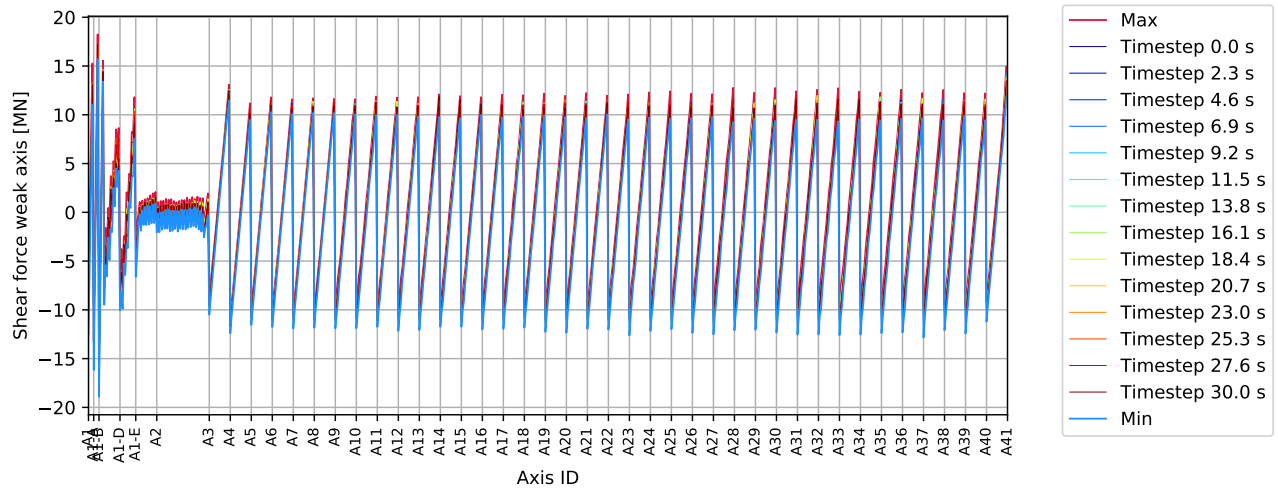


Figure 4.329: DH A30-A31 0deg - bridgегirder : Shear force weak axis [MN]

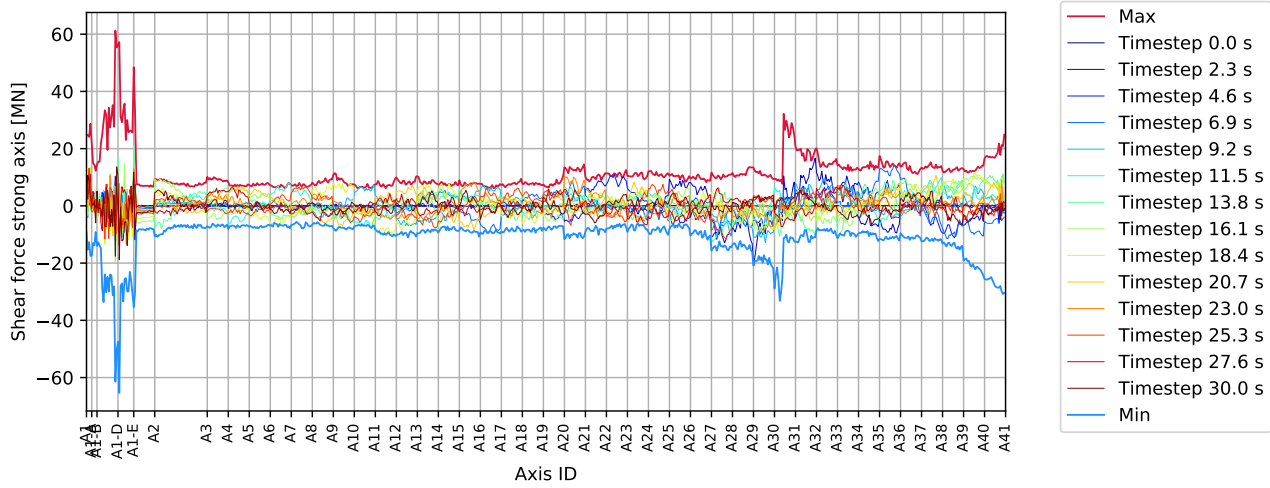


Figure 4.330: DH A30-A31 0deg - bridgegirder : Shear force strong axis [MN]

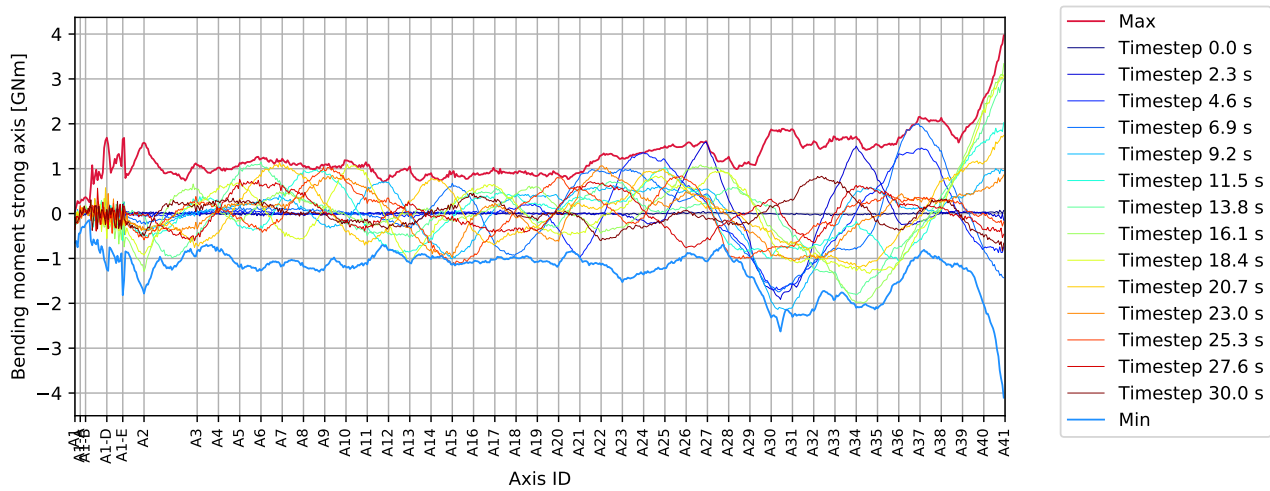


Figure 4.331: DH A30-A31 0deg - bridgegirder : Bending moment strong axis [GNm]

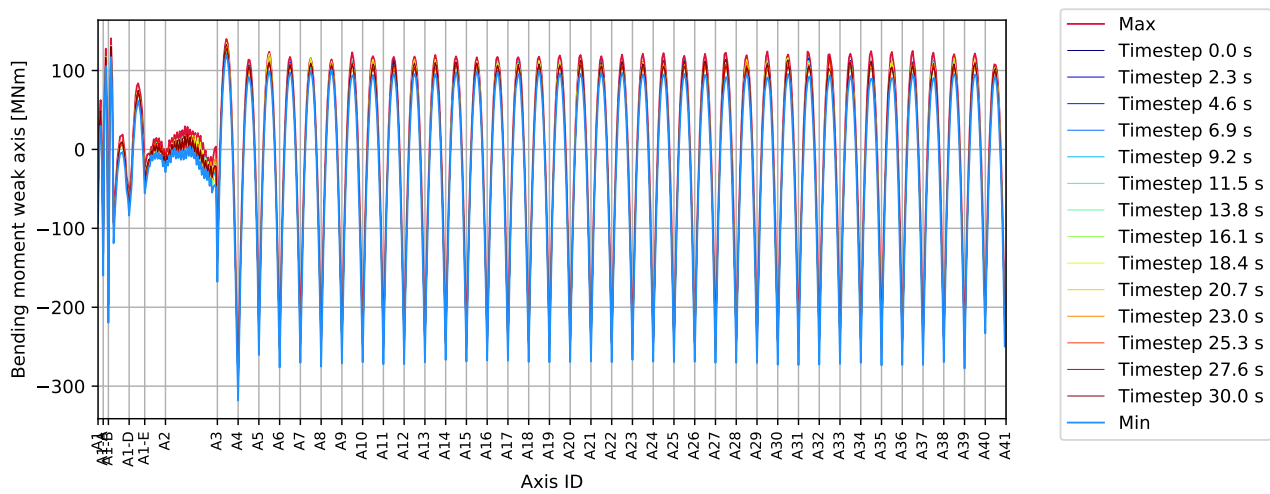


Figure 4.332: DH A30-A31 0deg - bridgegirder : Bending moment weak axis [MNm]

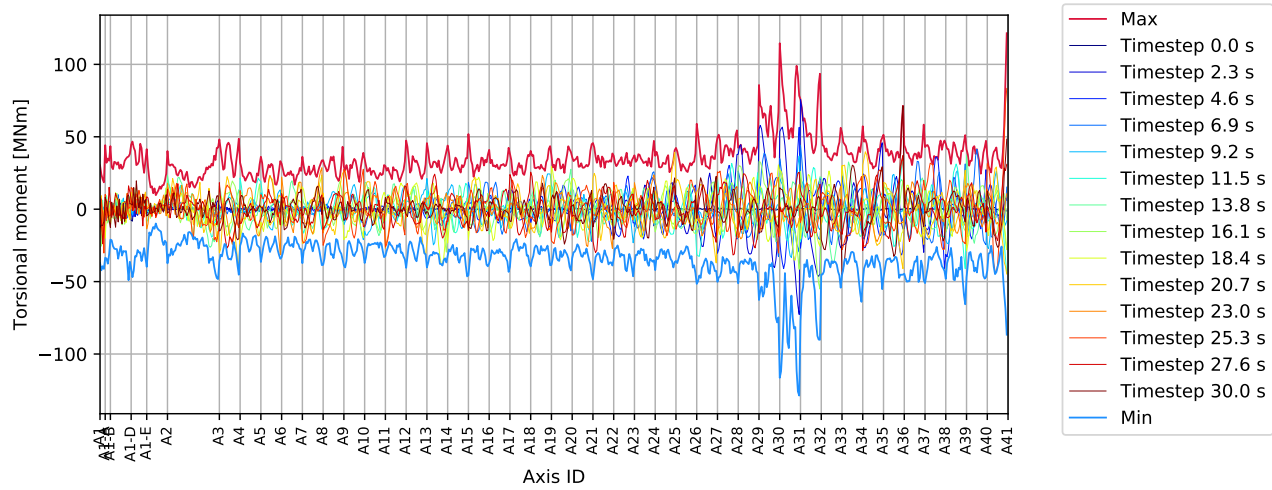


Figure 4.333: DH A30-A31 0deg - bridgegirder : Torsional moment [MNm]

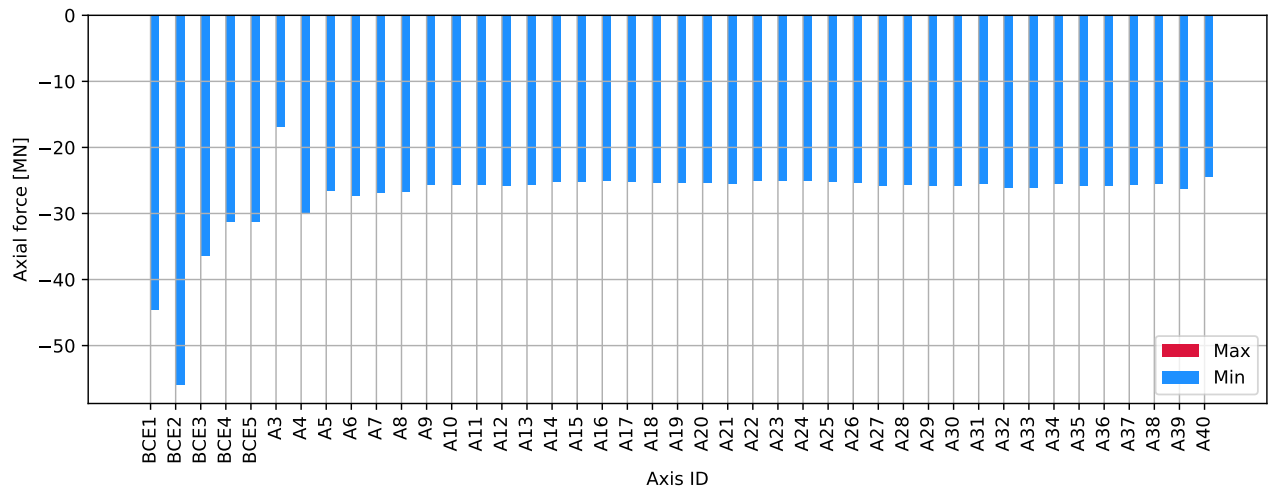


Figure 4.334: DH A30-A31 0deg - columns bottom : Axial force [MN]

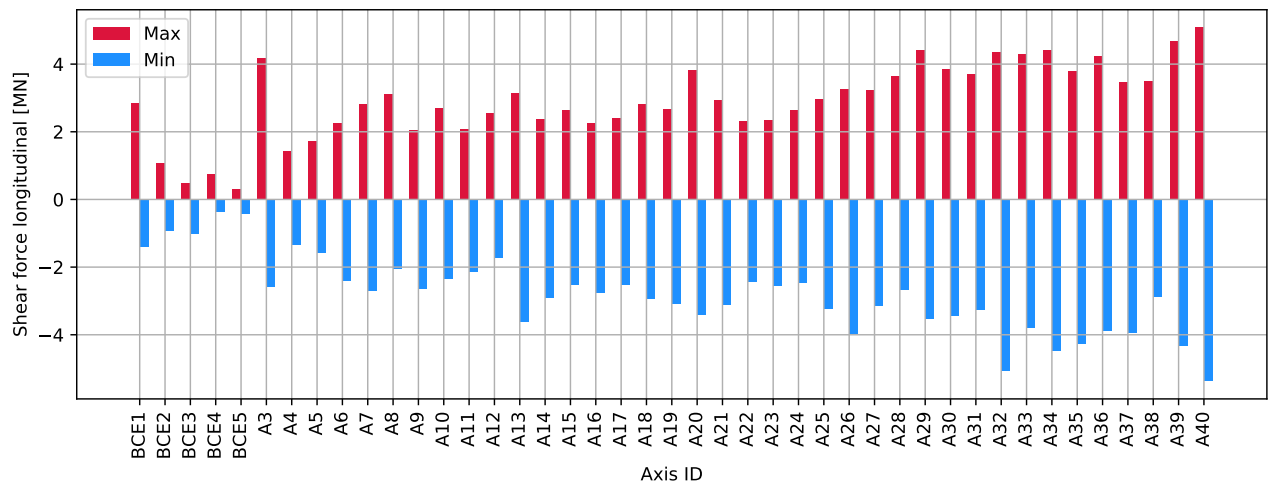


Figure 4.335: DH A30-A31 0deg - columns bottom : Shear force longitudinal [MN]

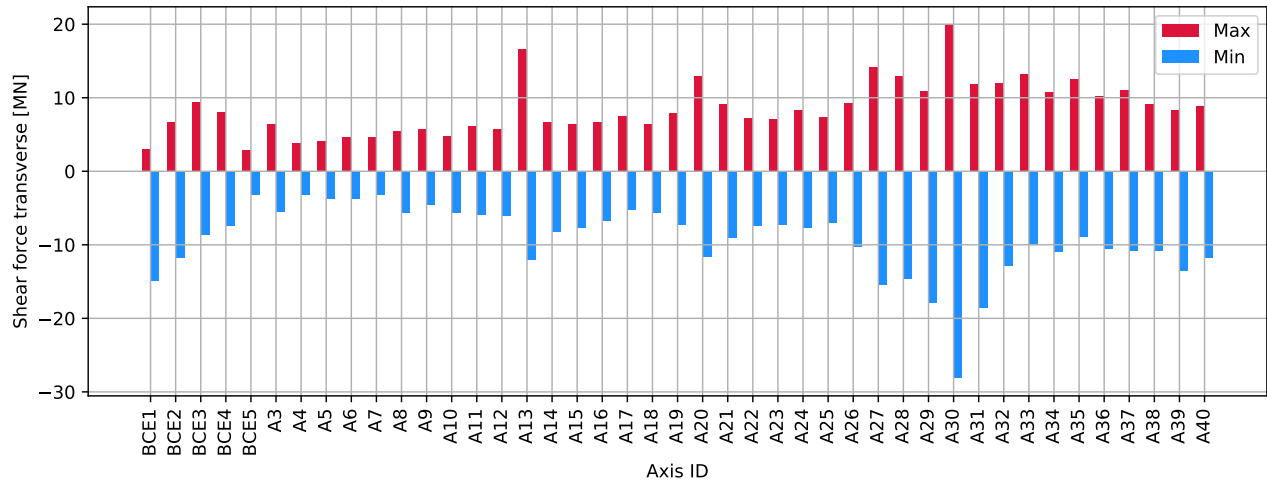


Figure 4.336: DH A30-A31 0deg - columns bottom : Shear force transverse [MN]

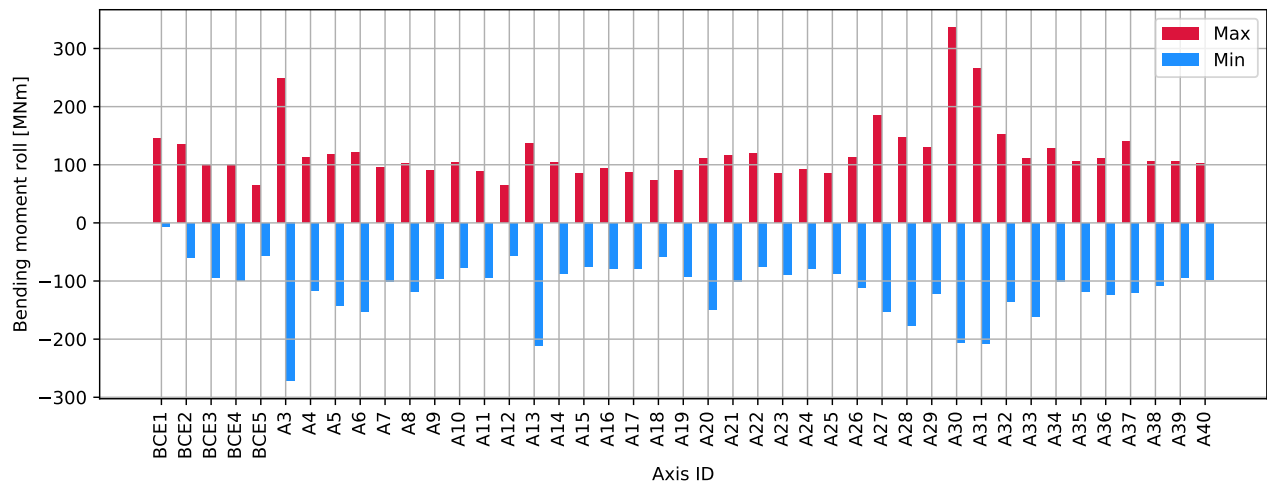


Figure 4.337: DH A30-A31 0deg - columns bottom : Bending moment roll [MNm]

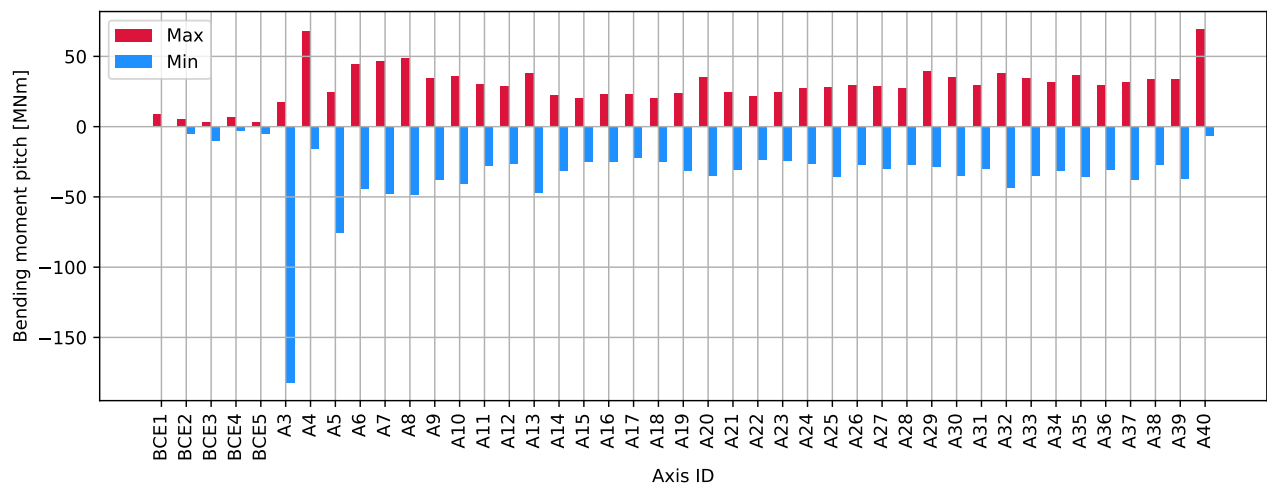


Figure 4.338: DH A30-A31 0deg - columns bottom : Bending moment pitch [MNm]

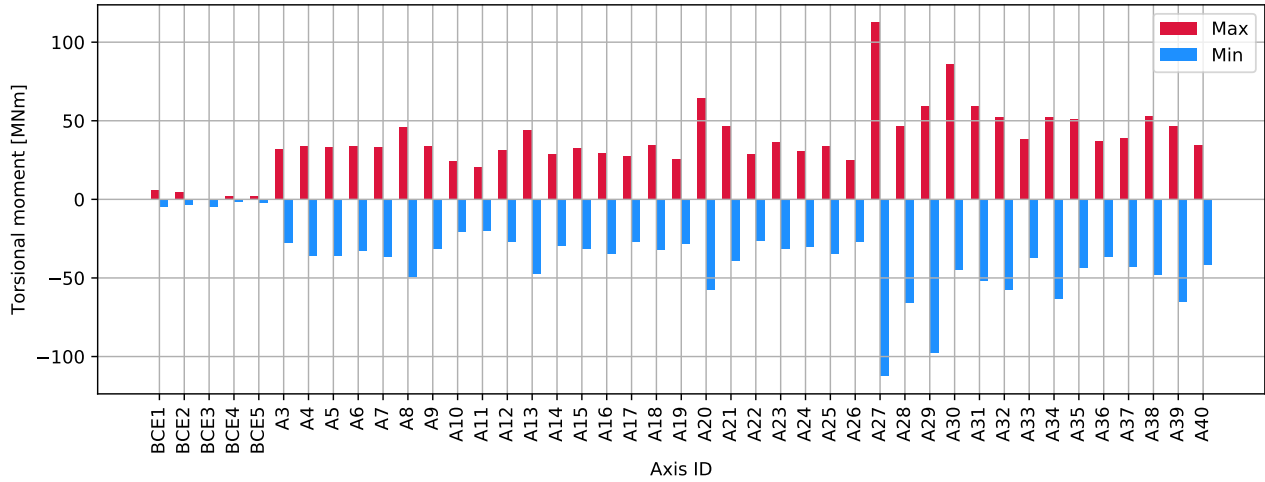


Figure 4.339: DH A30-A31 0deg - columns bottom : Torsional moment [MNm]

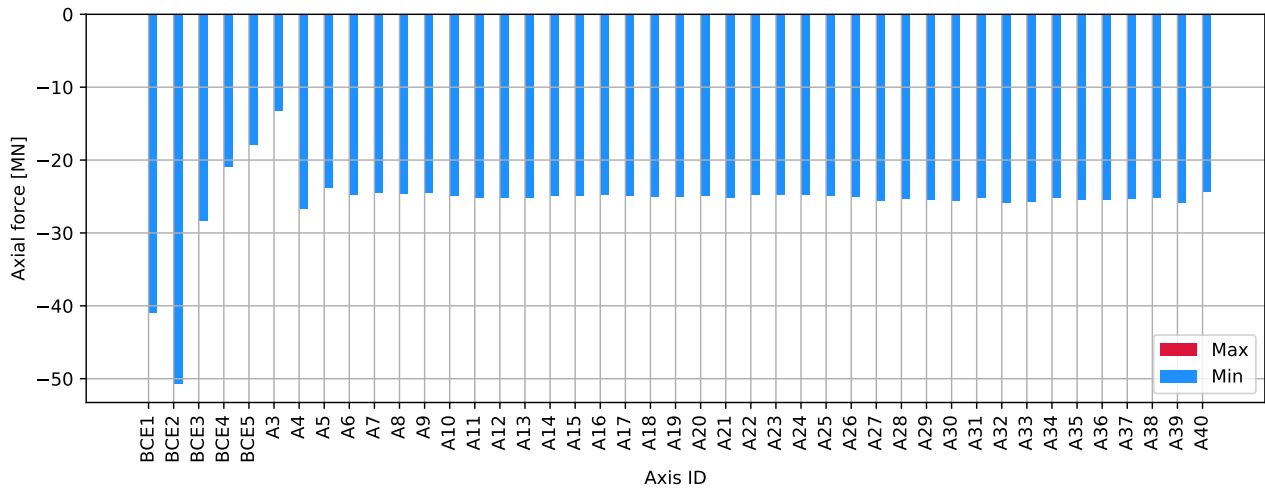


Figure 4.340: DH A30-A31 0deg - columns top : Axial force [MN]

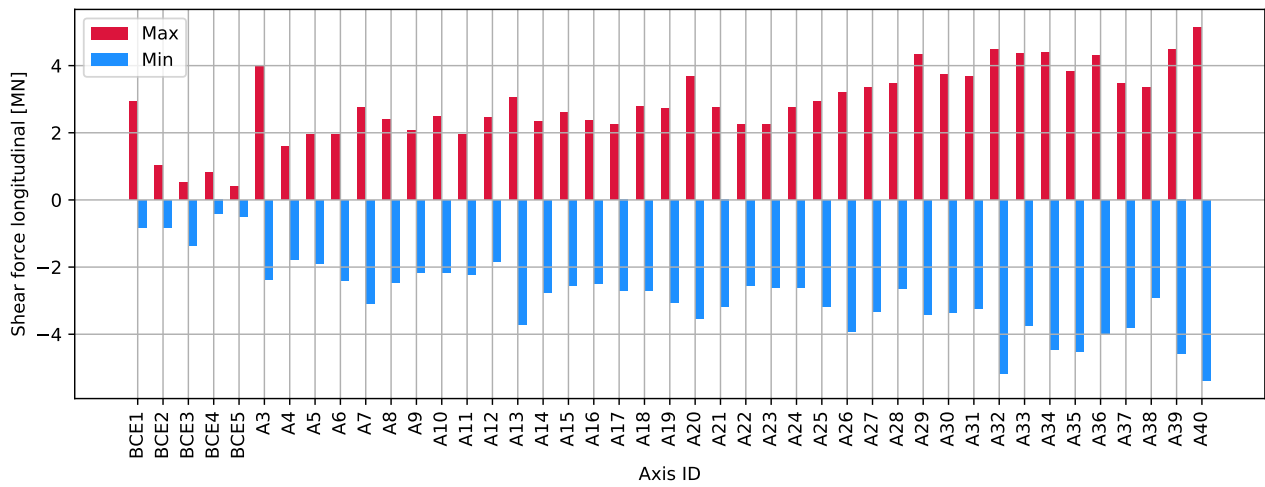


Figure 4.341: DH A30-A31 0deg - columns top : Shear force longitudinal [MN]

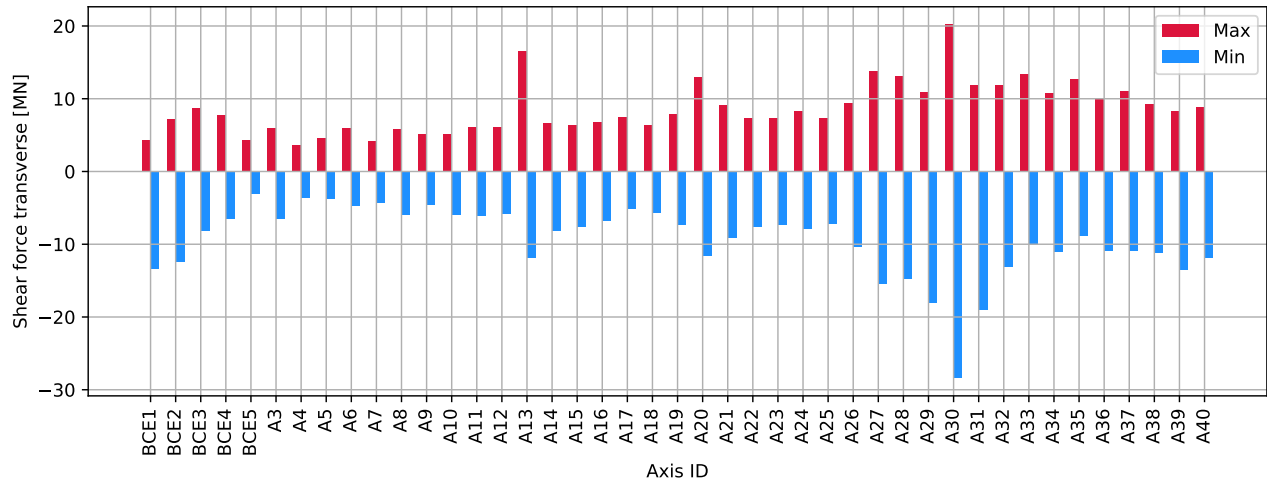


Figure 4.342: DH A30-A31 0deg - columns top : Shear force transverse [MN]

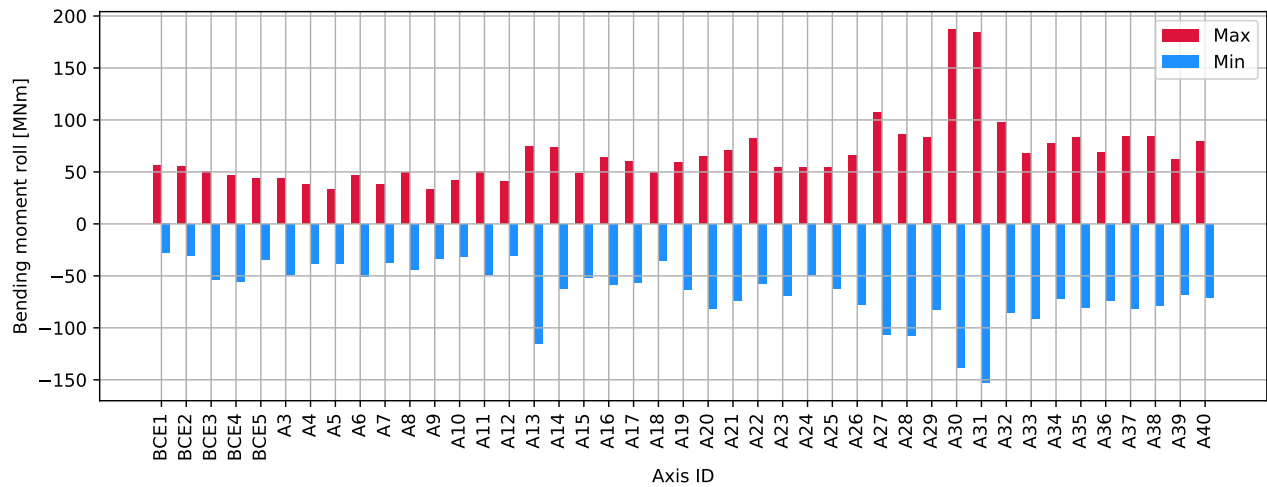


Figure 4.343: DH A30-A31 0deg - columns top : Bending moment roll [MNm]

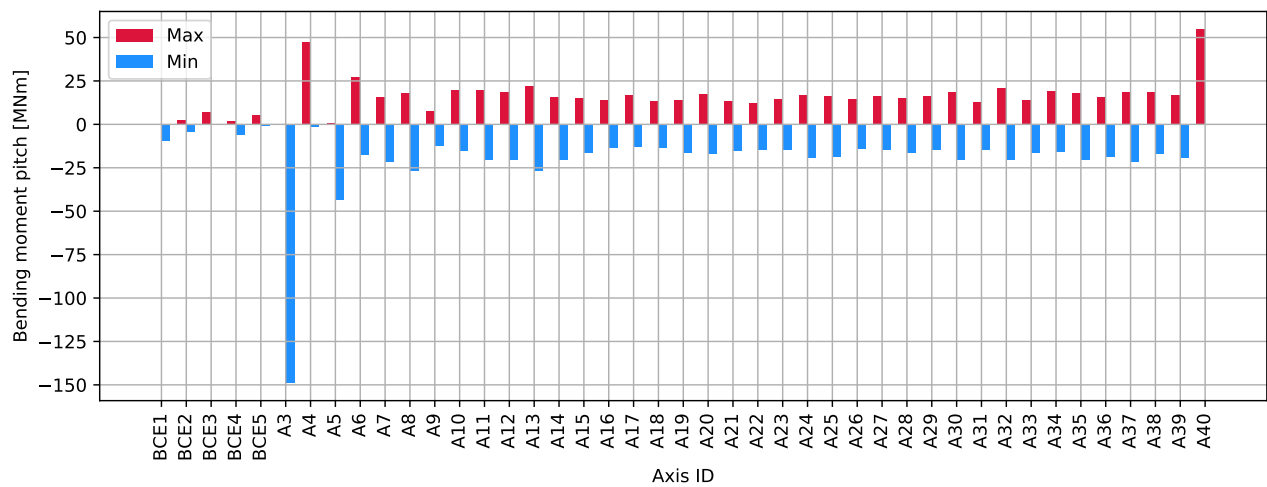


Figure 4.344: DH A30-A31 0deg - columns top : Bending moment pitch [MNm]

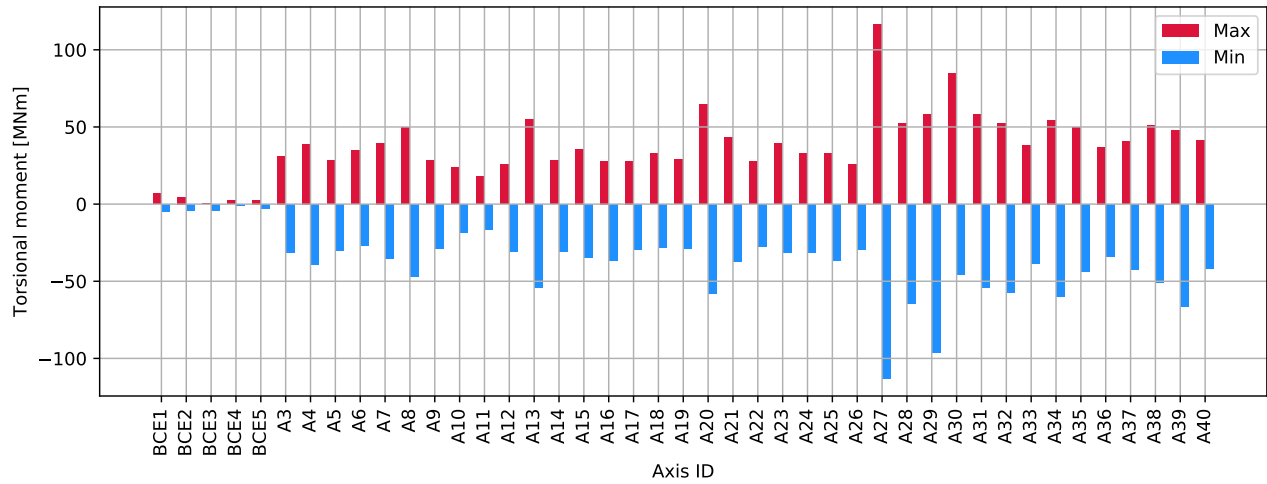


Figure 4.345: DH A30-A31 0deg - columns top : Torsional moment [MNm]

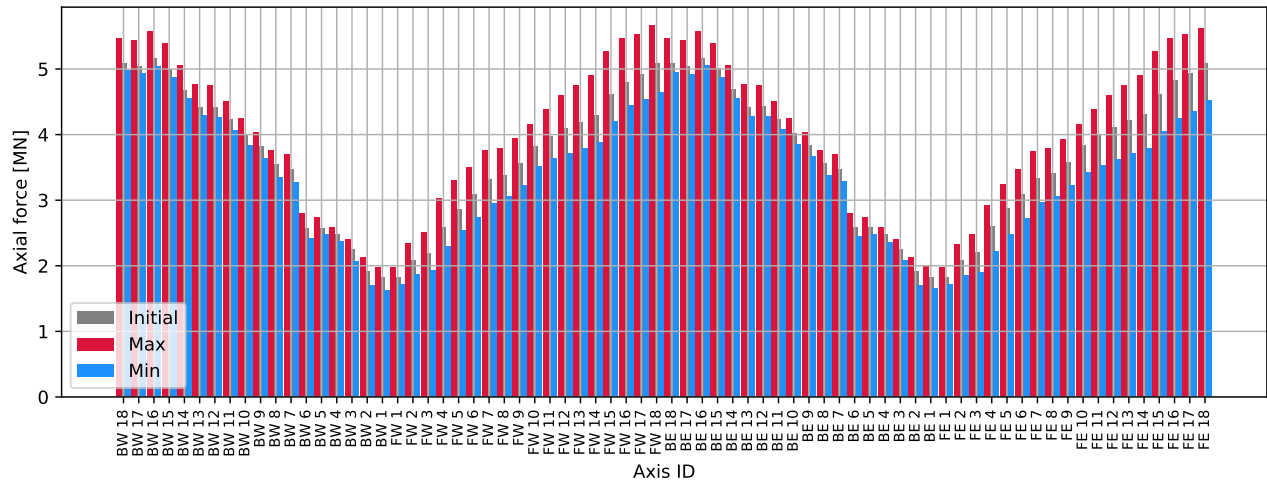


Figure 4.346: DH A30-A31 0deg - cables : Axial force [MN]

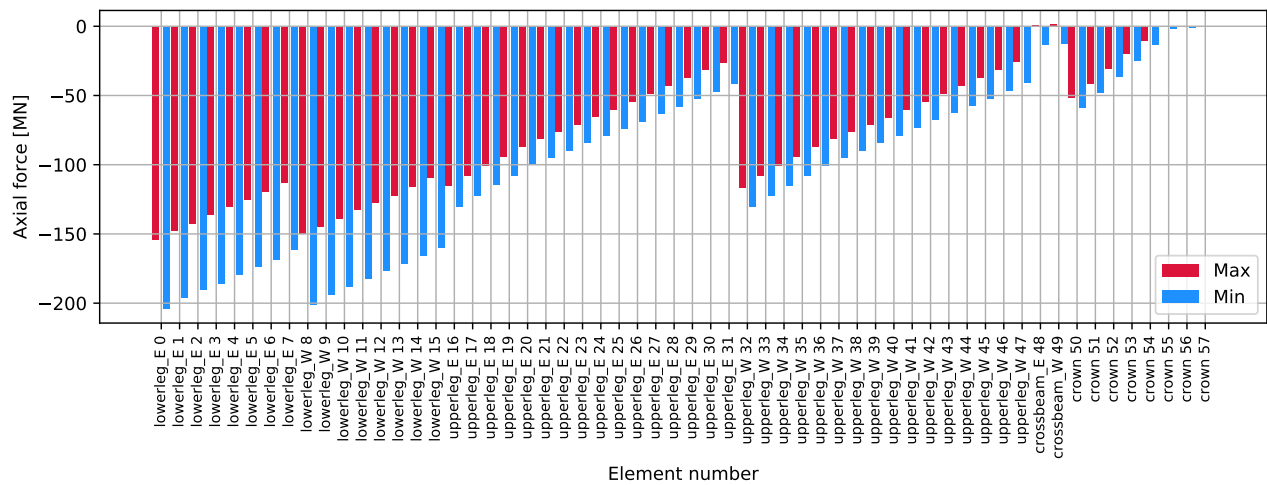


Figure 4.347: DH A30-A31 0deg - tower: Axial force [MN]

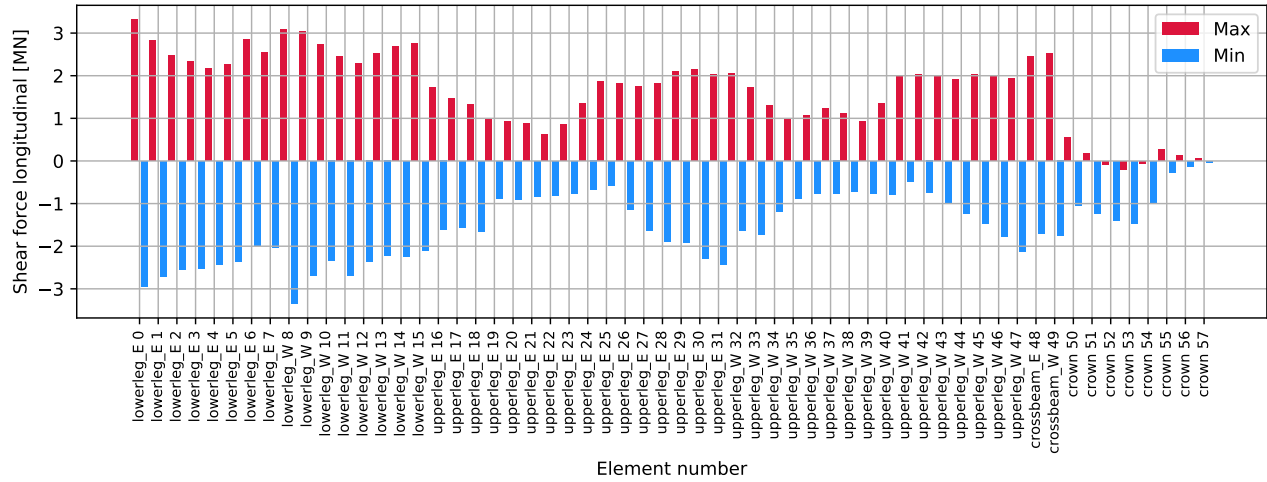


Figure 4.348: DH A30-A31 0deg - tower: Shear force longitudinal [MN]

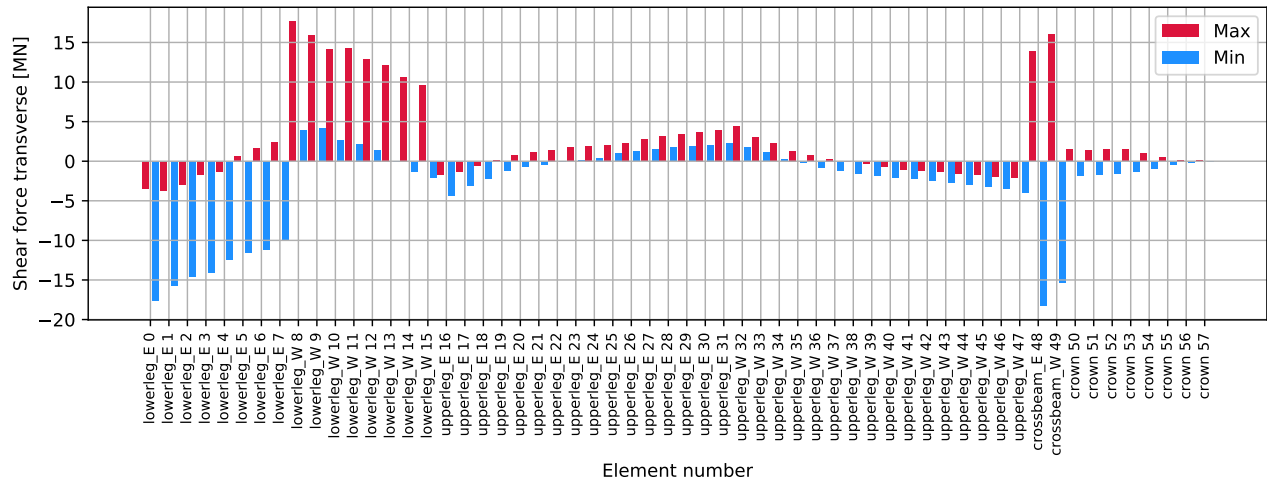


Figure 4.349: DH A30-A31 0deg - tower: Shear force transverse [MN]

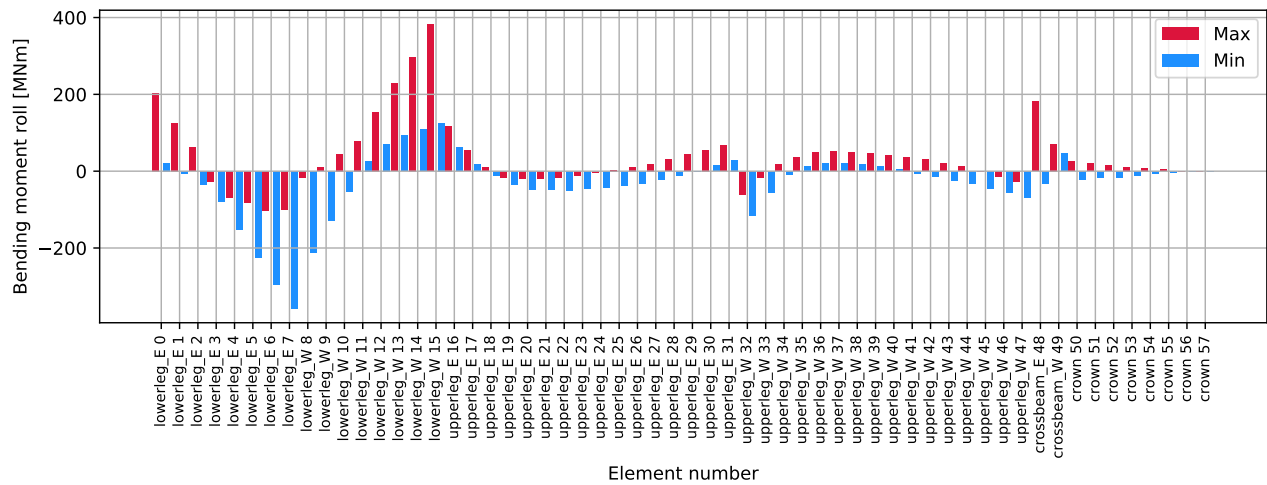


Figure 4.350: DH A30-A31 0deg - tower: Bending moment roll [MNm]

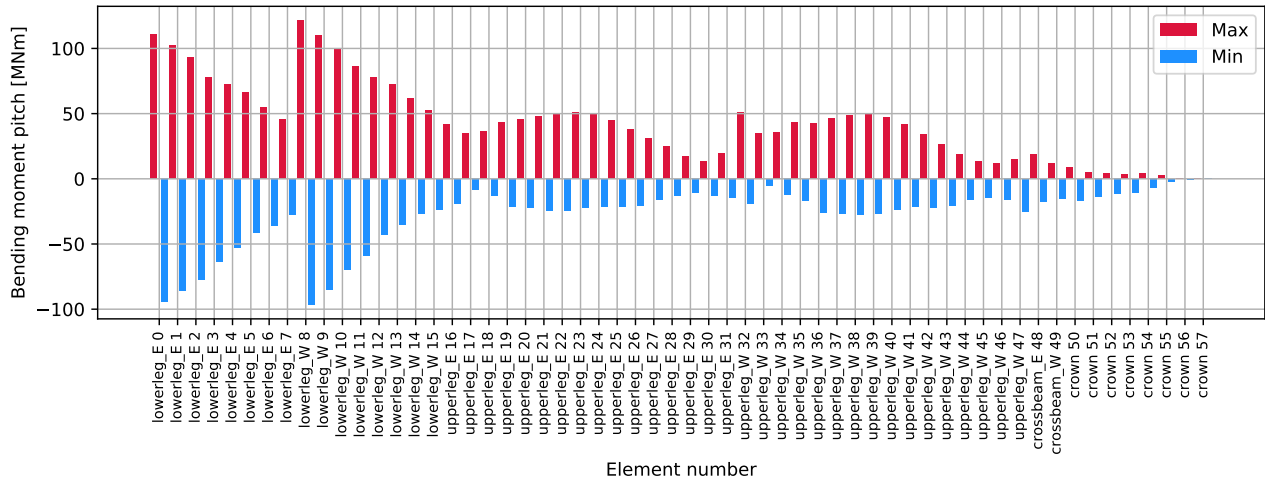


Figure 4.351: DH A30-A31 0deg - tower: Bending moment pitch [MNm]

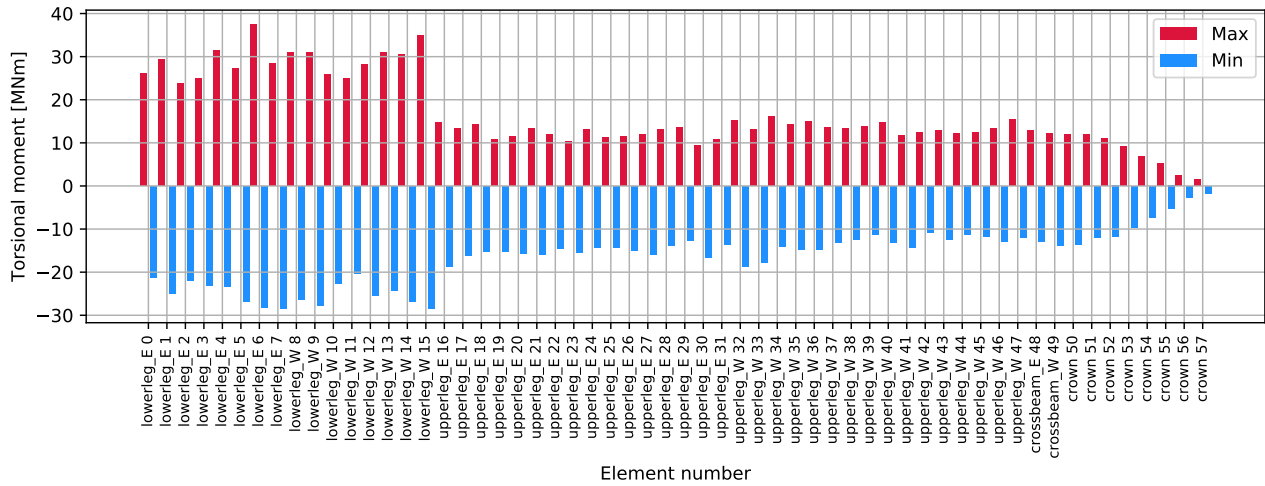


Figure 4.352: DH A30-A31 0deg - tower: Torsional moment [MNm]

4.8.3 Time series

Note : Time series are filtered using a Savitzky-Golay filter for increased readability of the time history plots. Hence, maximum values that occur due to a rapid vibration are not shown in the plots. For maximum values, refer to the tabulated data.

All elements are numbered from South to North, bottom to top

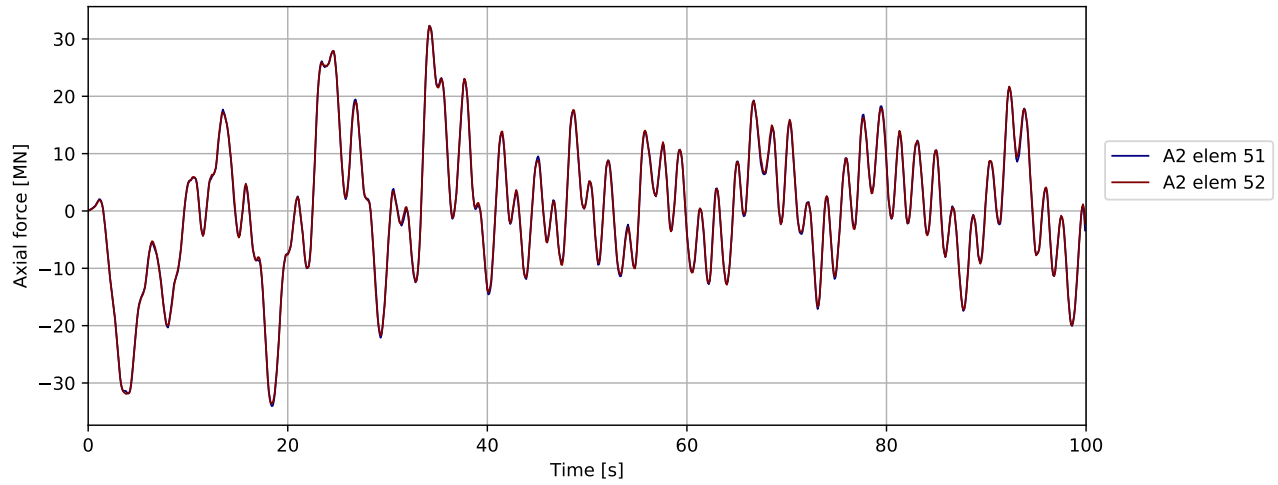


Figure 4.353: DH A30-A31 0deg - bridgegirder @ pylon: Axial force [MN]

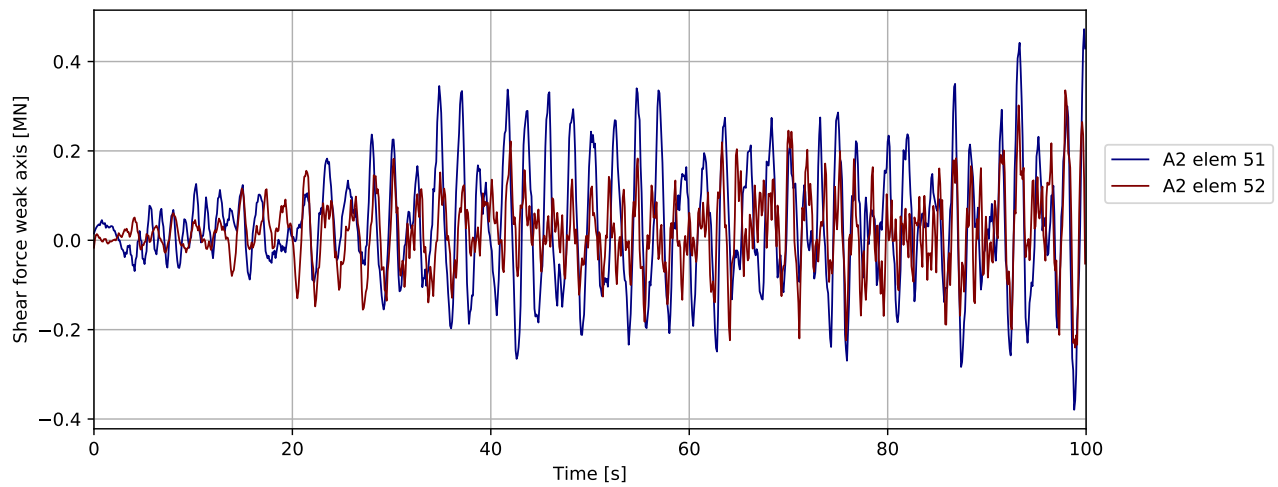


Figure 4.354: DH A30-A31 0deg - bridgegirder @ pylon: Shear force weak axis [MN]

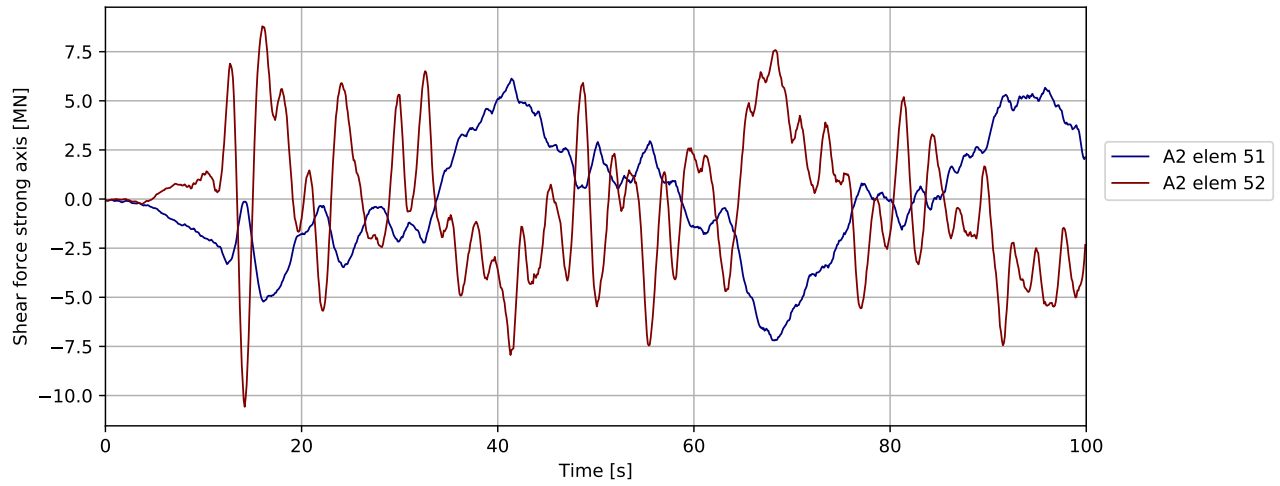


Figure 4.355: DH A30-A31 0deg - bridgegirder @ pylon: Shear force strong axis [MN]

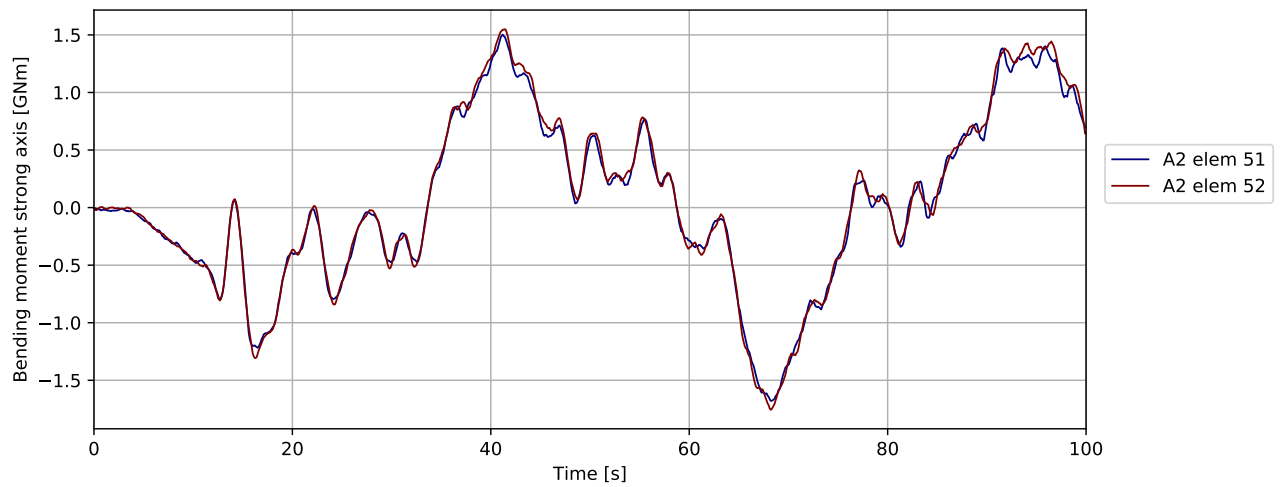


Figure 4.356: DH A30-A31 0deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

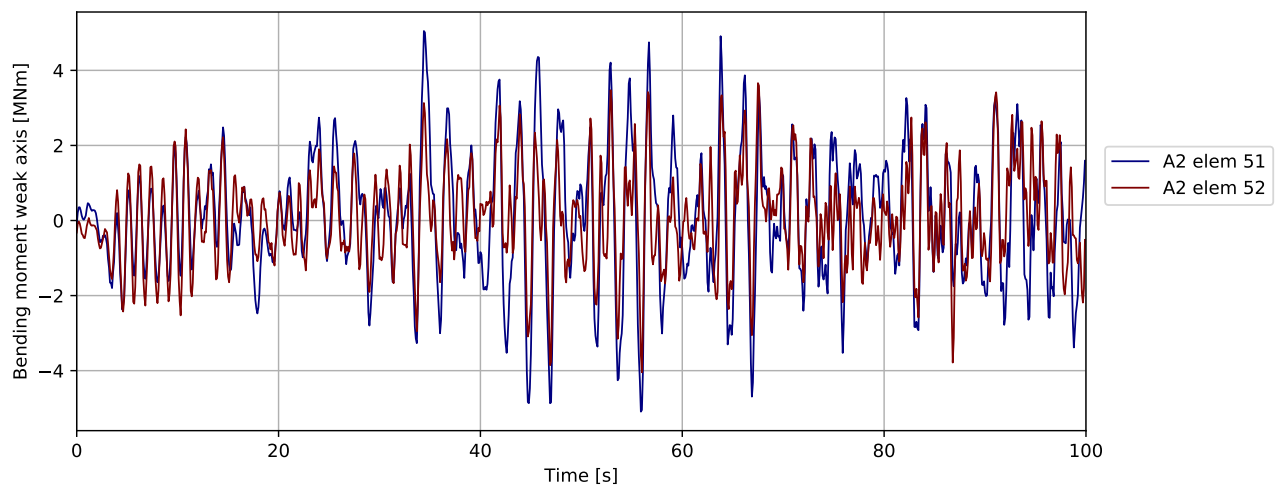


Figure 4.357: DH A30-A31 0deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

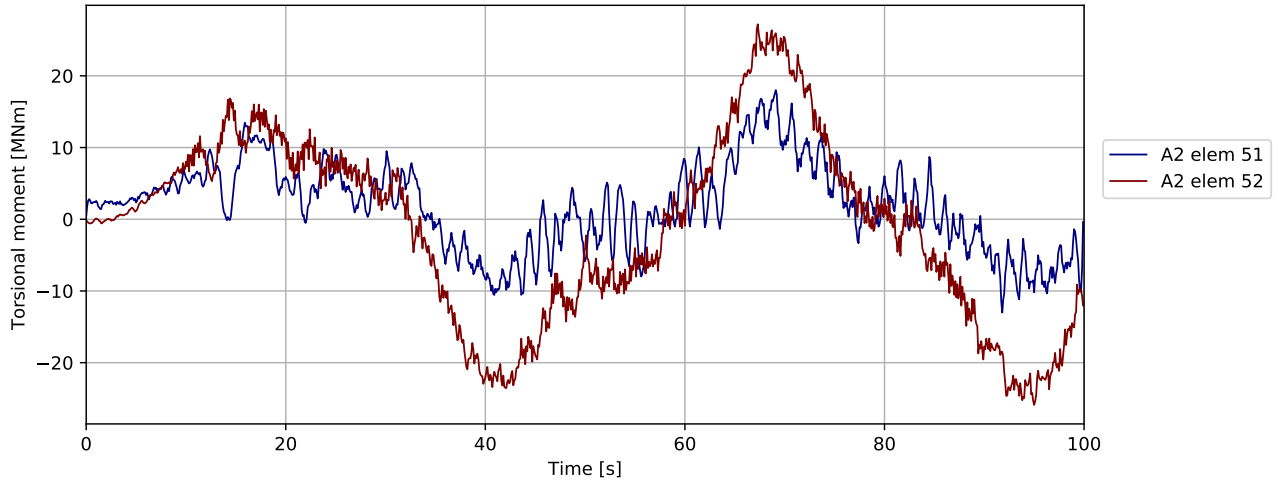


Figure 4.358: DH A30-A31 0deg - bridgegirder @ pylon: Torsional moment [MNm]

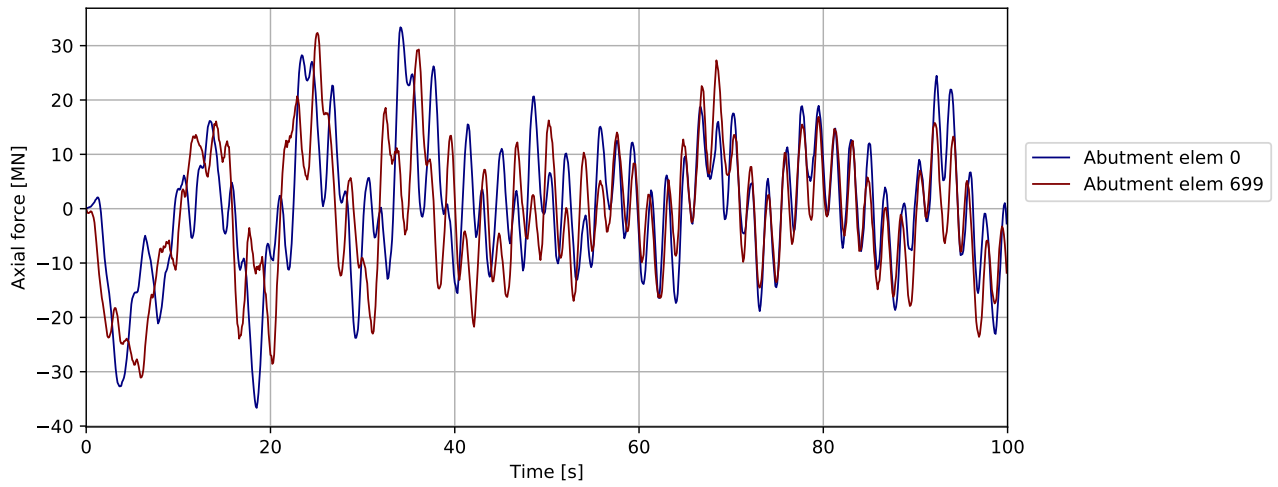


Figure 4.359: DH A30-A31 0deg - bridgegirder @abutments: Axial force [MN]

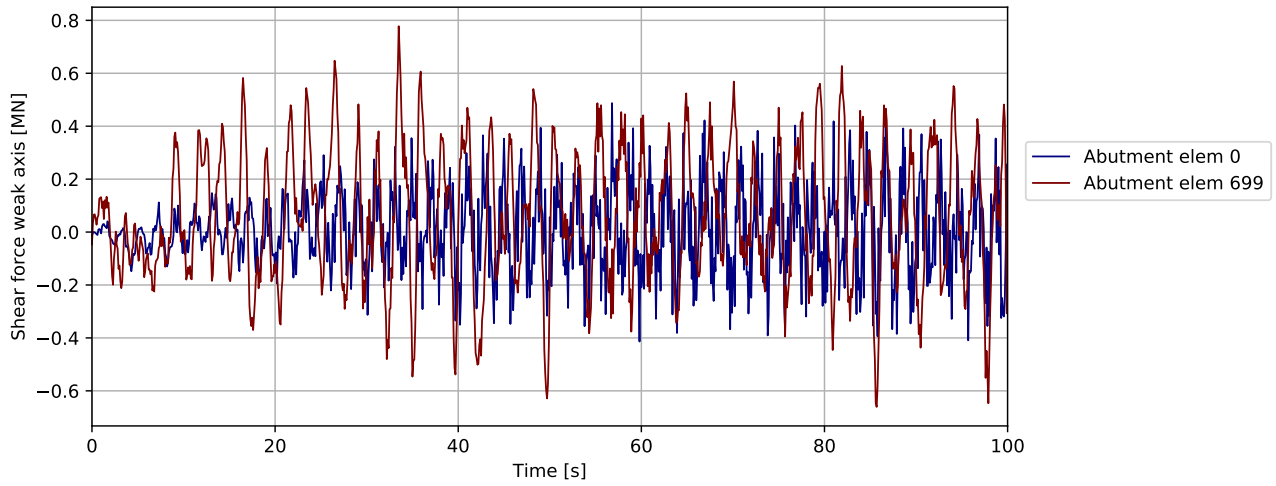


Figure 4.360: DH A30-A31 0deg - bridgegirder @abutments: Shear force weak axis [MN]

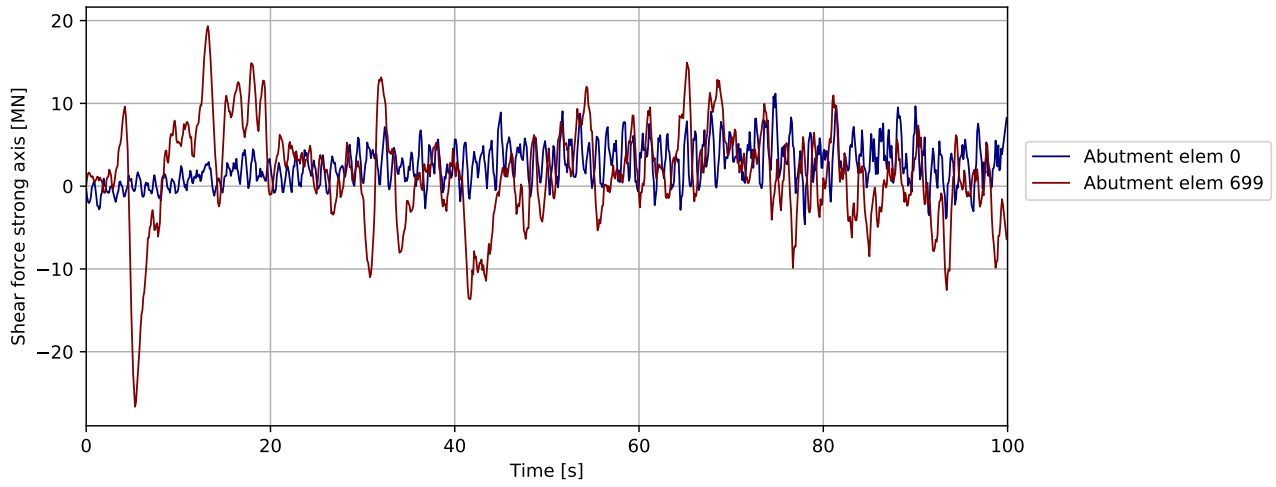


Figure 4.361: DH A30-A31 0deg - bridgegirder @abutments: Shear force strong axis [MN]

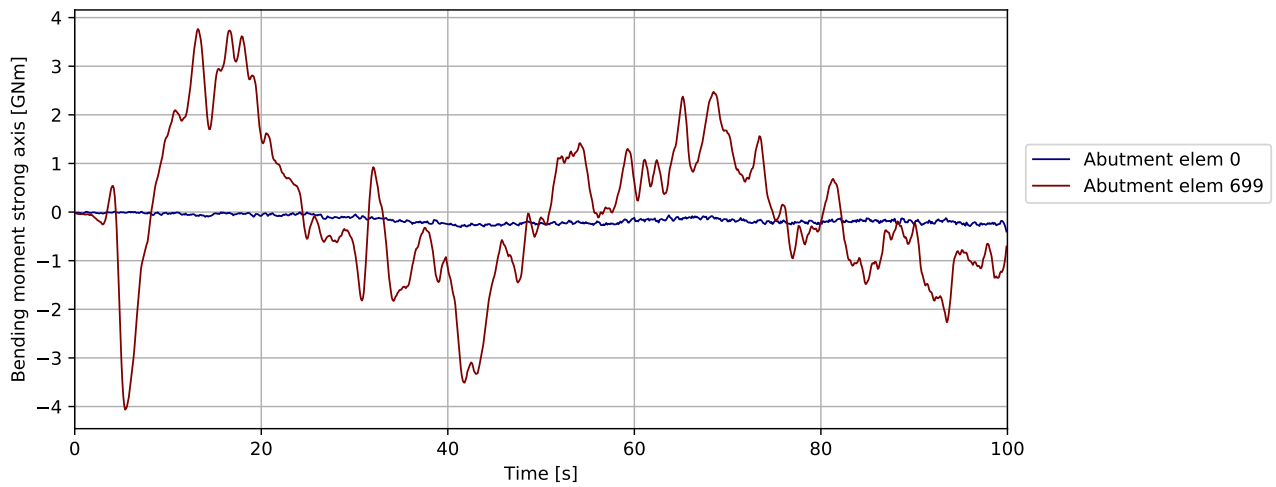


Figure 4.362: DH A30-A31 0deg - bridgegirder @abutments: Bending moment strong axis [GNm]

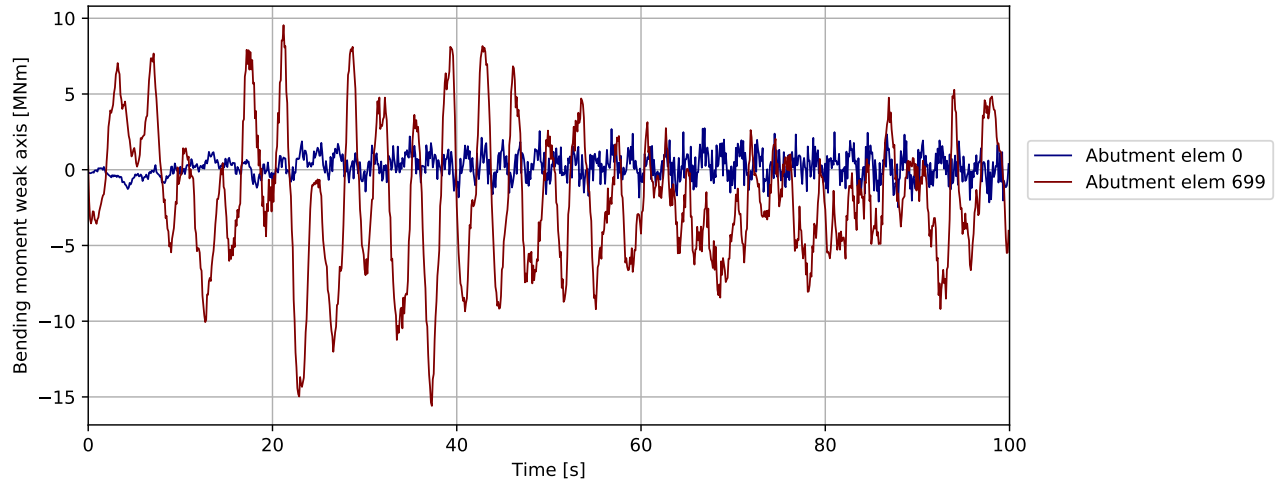


Figure 4.363: DH A30-A31 0deg - bridgegirder @abutments: Bending moment weak axis [MNm]

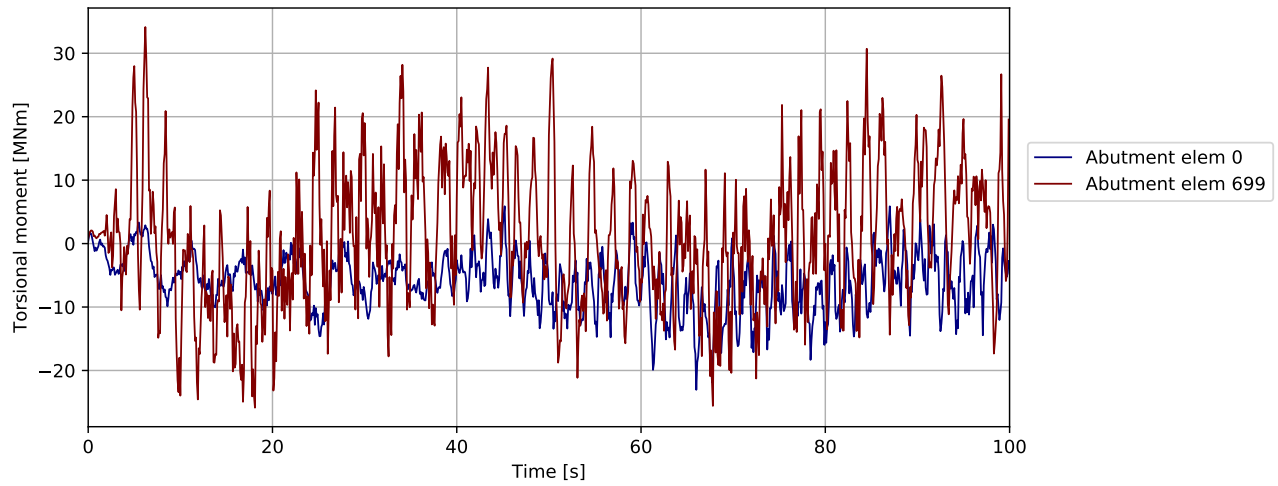


Figure 4.364: DH A30-A31 0deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

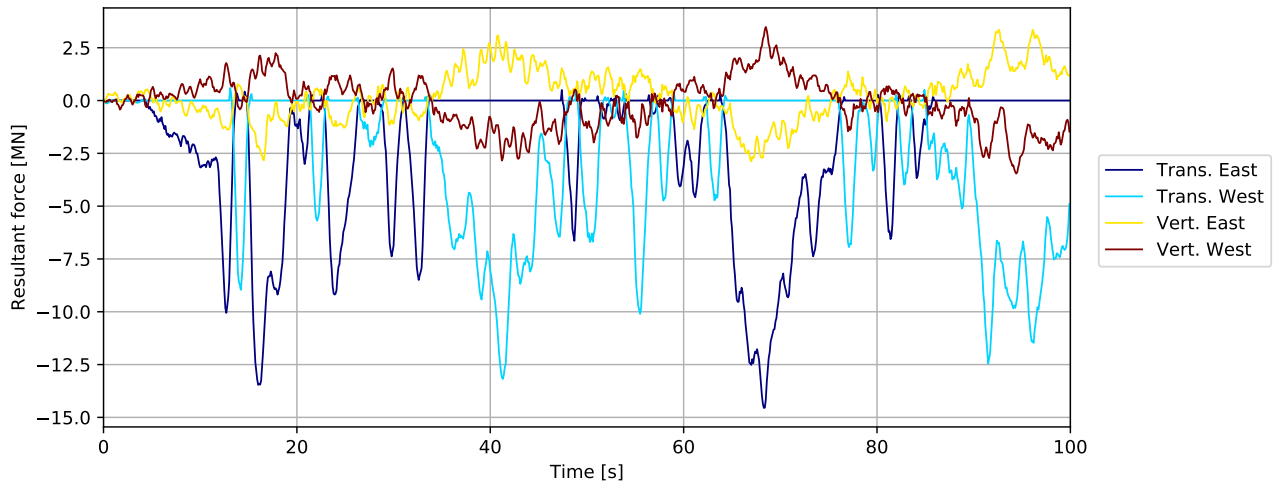


Figure 4.365: DH A30-A31 0deg - bridgegirder supports in tower: Resultant force [MN]

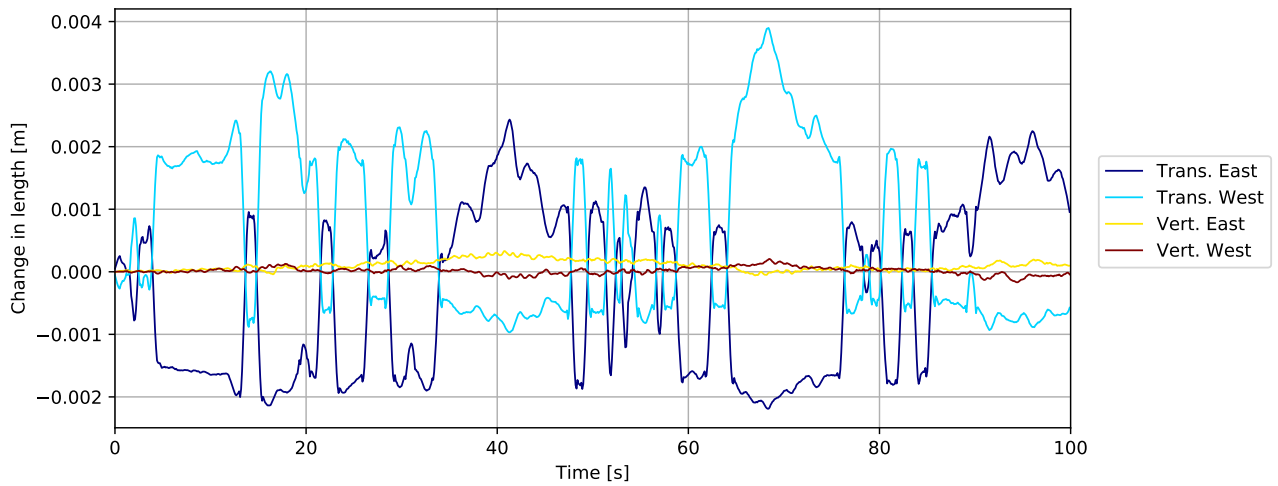


Figure 4.366: DH A30-A31 0deg - bridgegirder supports in tower: Change in length [m]

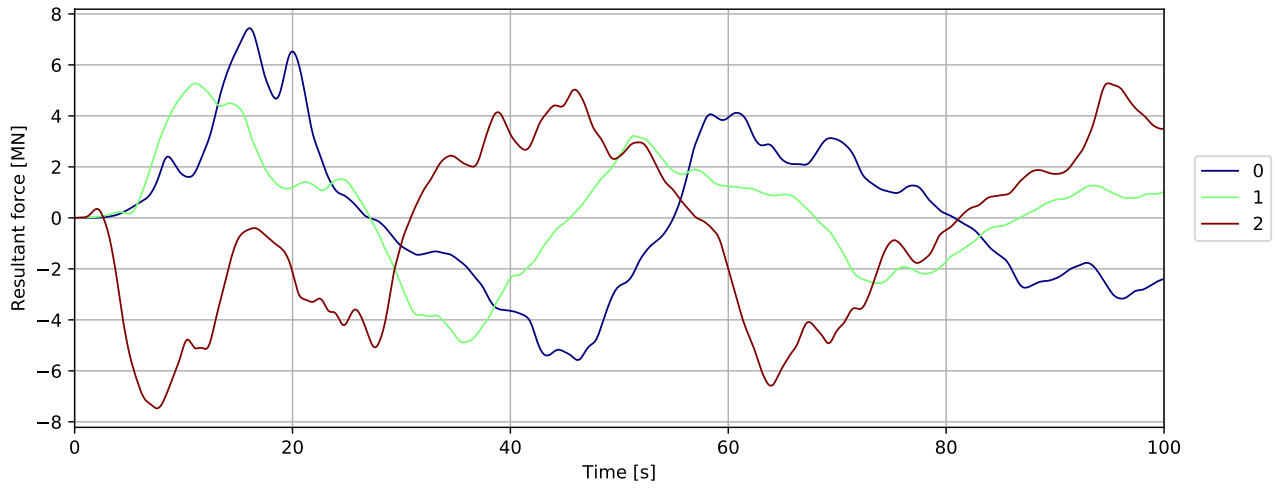


Figure 4.367: Mooring force

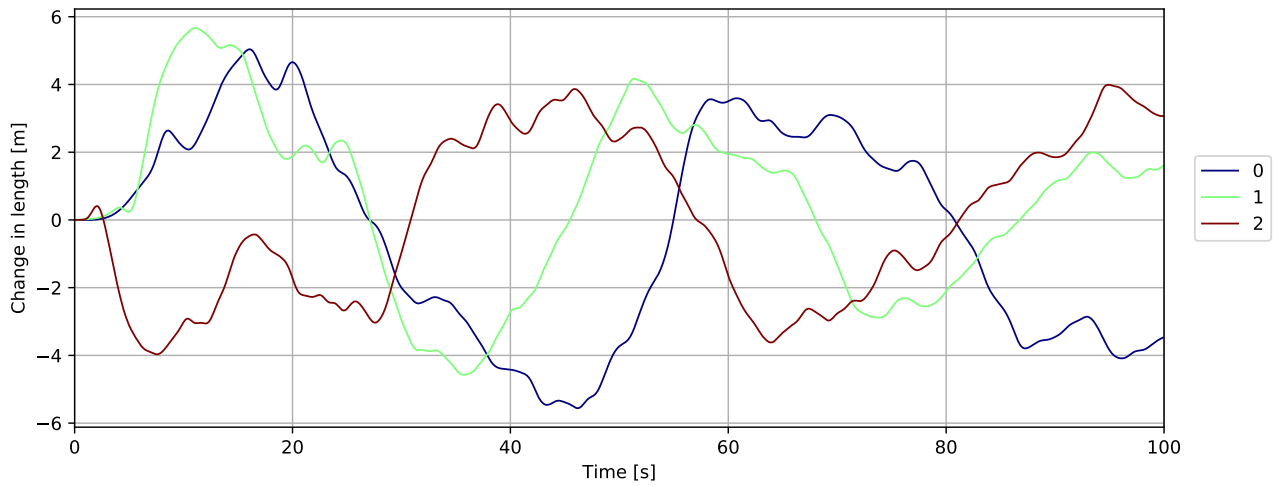


Figure 4.368: Mooring displacement

4.9 Deck house A35-A36 0deg

4.9.1 Overall response

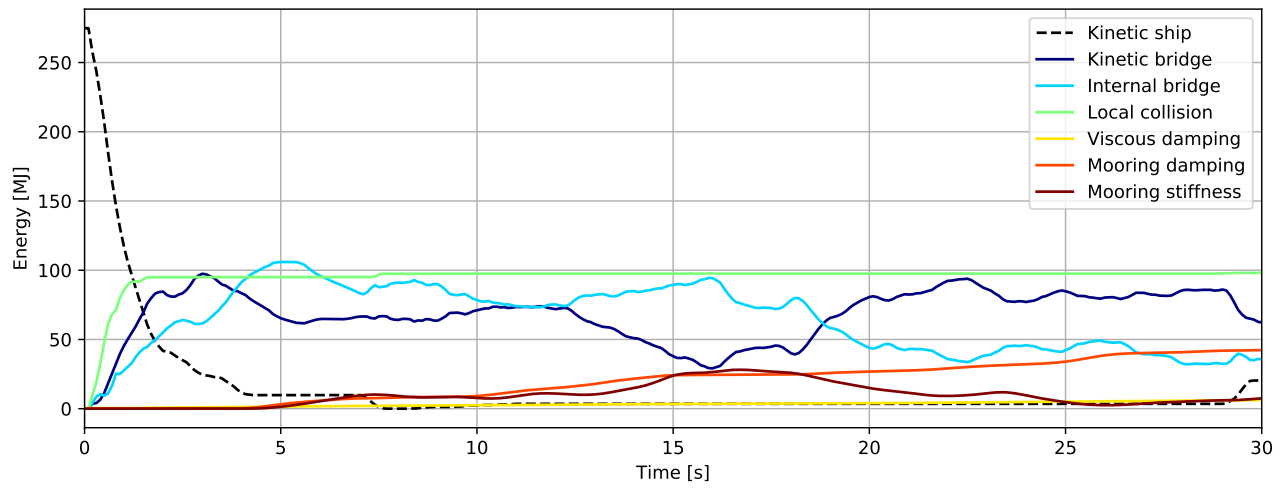


Figure 4.369: Energy [MJ] - initial phase

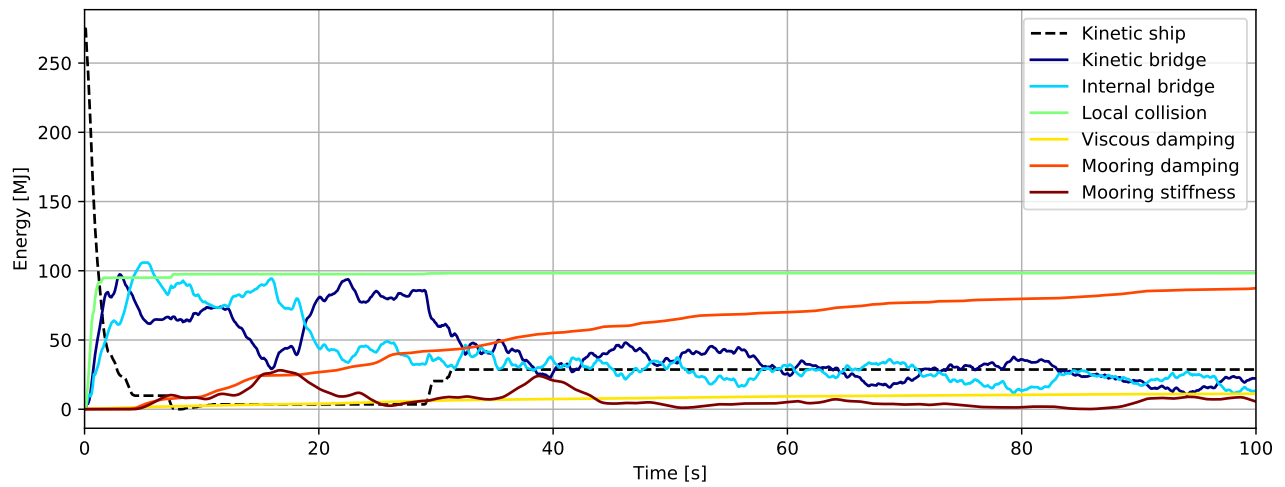


Figure 4.370: Energy [MJ]

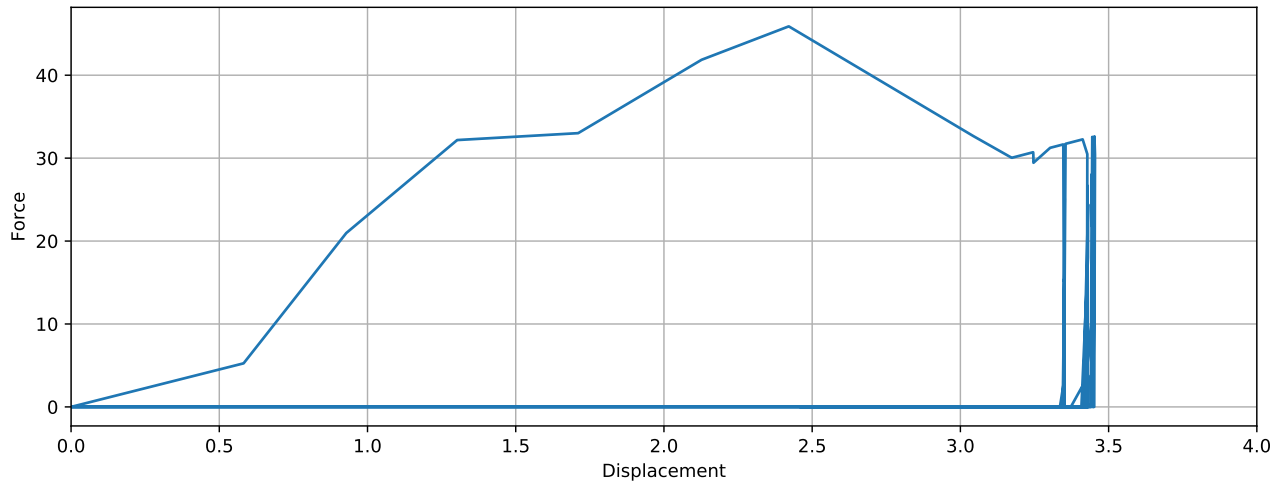


Figure 4.371: Simulated local collision force-displacement

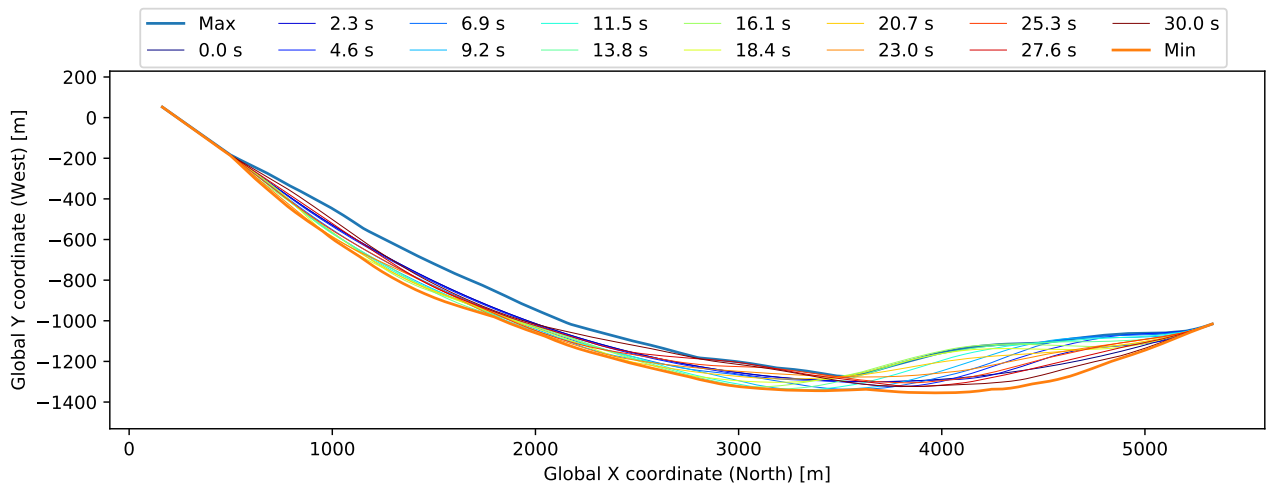


Figure 4.372: Bridgegirder deflection (10x displacement scaling)

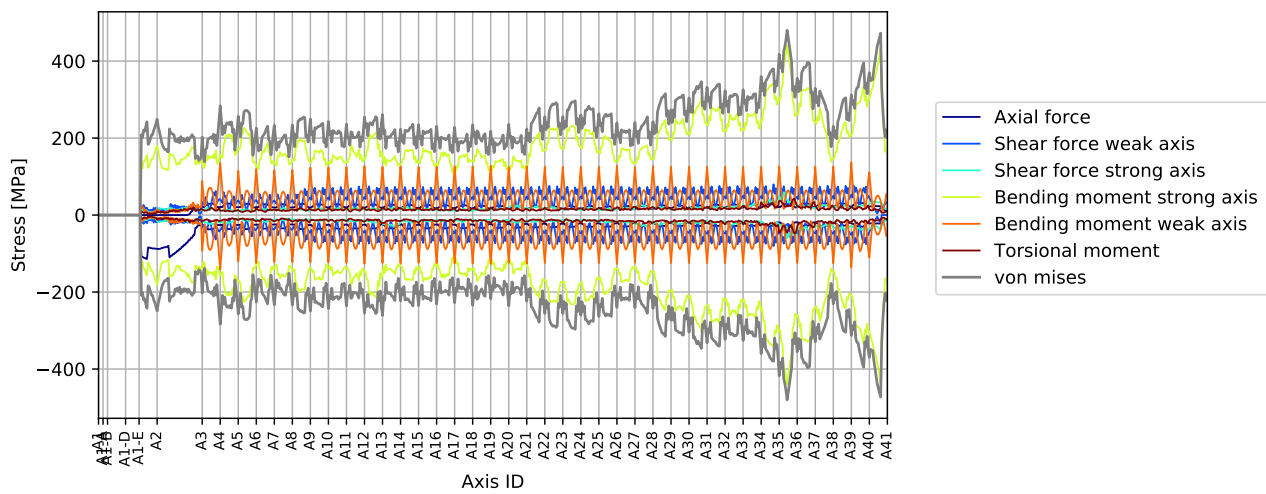


Figure 4.373: Stress envelope from all force components

4.9.2 Envelope plots

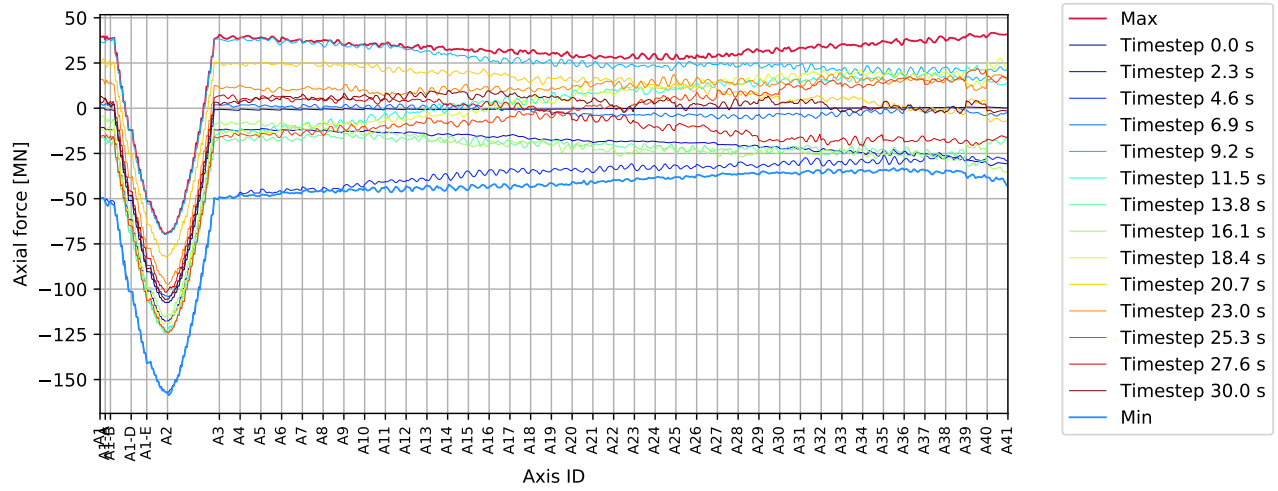


Figure 4.374: DH A35-A36 0deg - bridg girder : Axial force [MN]

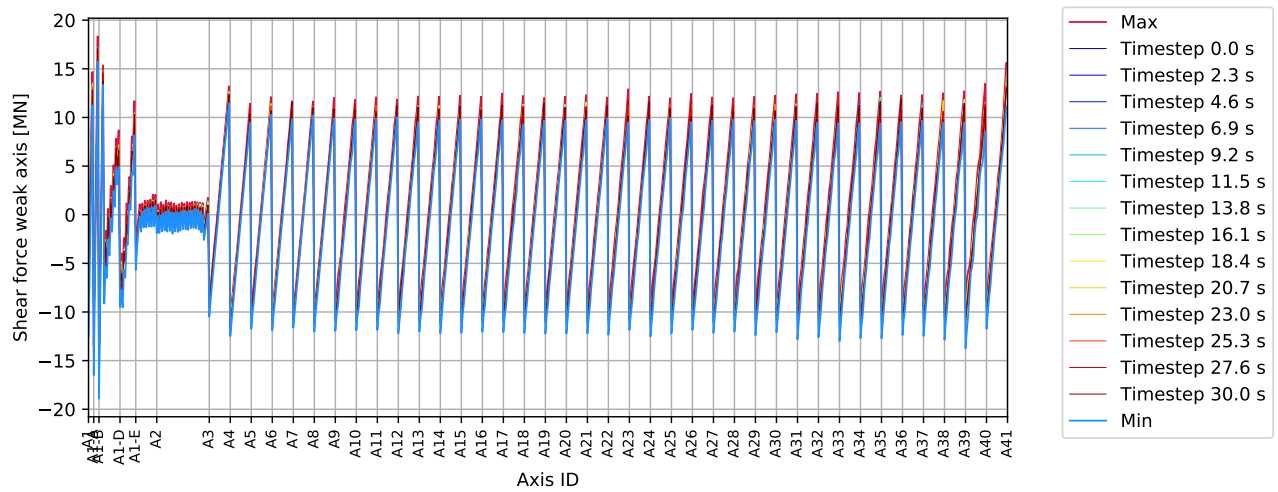


Figure 4.375: DH A35-A36 0deg - bridg girder : Shear force weak axis [MN]

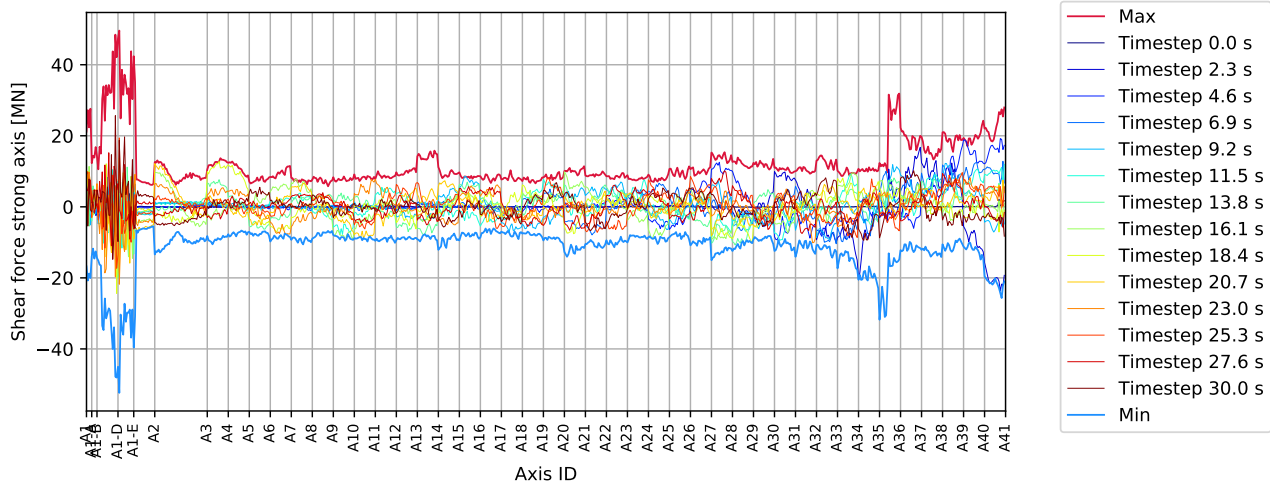


Figure 4.376: DH A35-A36 0deg - bridgegirder : Shear force strong axis [MN]

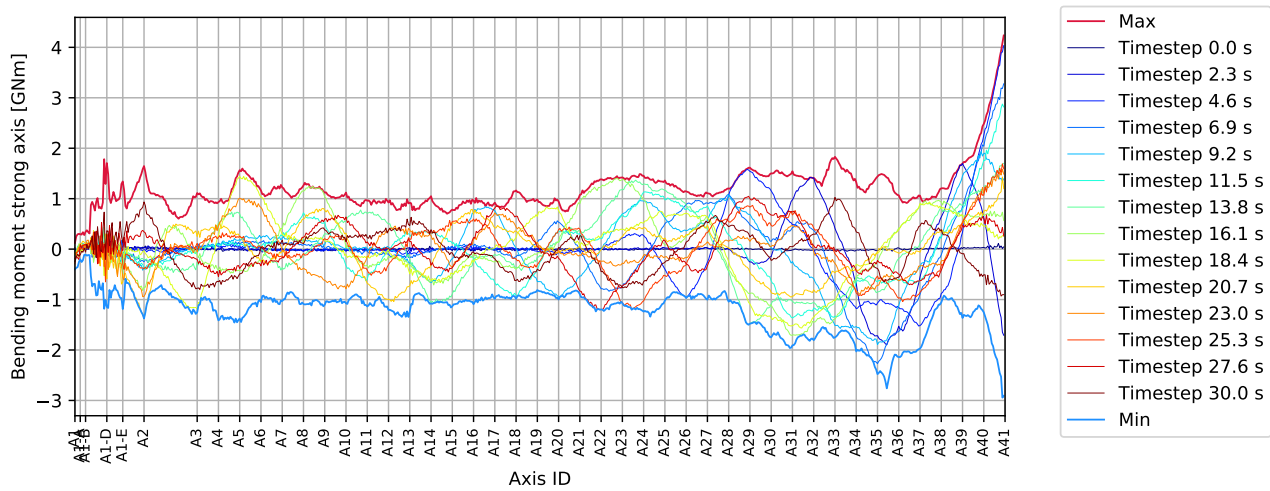


Figure 4.377: DH A35-A36 0deg - bridgegirder : Bending moment strong axis [GNm]

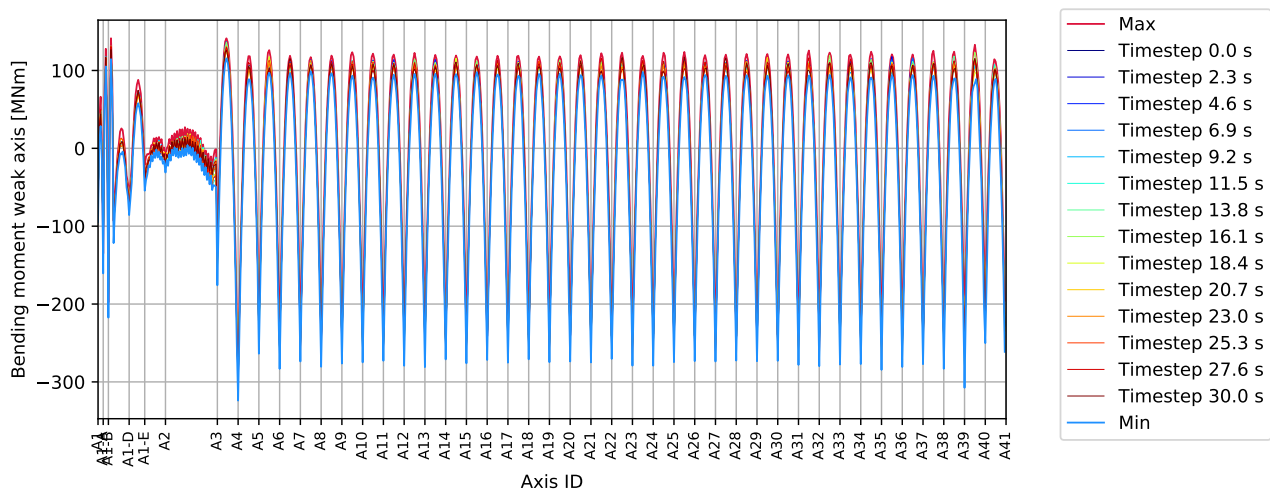


Figure 4.378: DH A35-A36 0deg - bridgegirder : Bending moment weak axis [MNm]

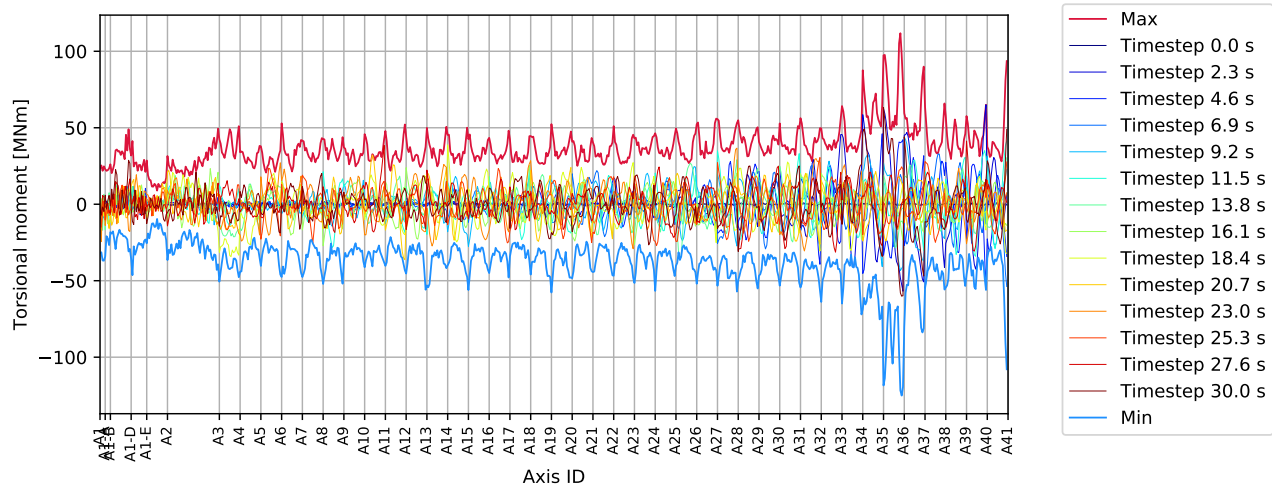


Figure 4.379: DH A35-A36 0deg - bridgegirder : Torsional moment [MNm]

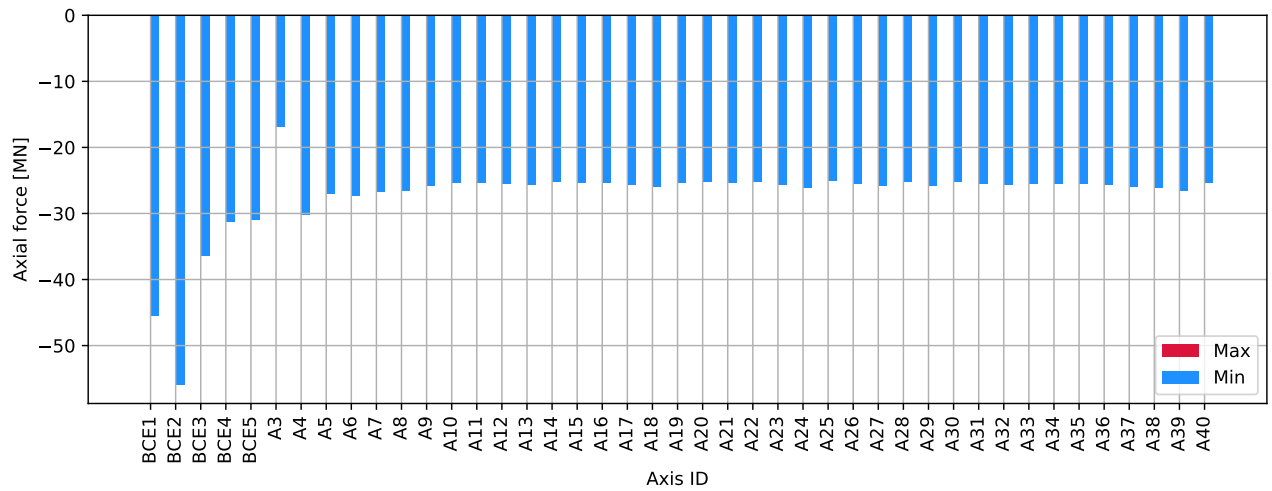


Figure 4.380: DH A35-A36 0deg - columns bottom : Axial force [MN]

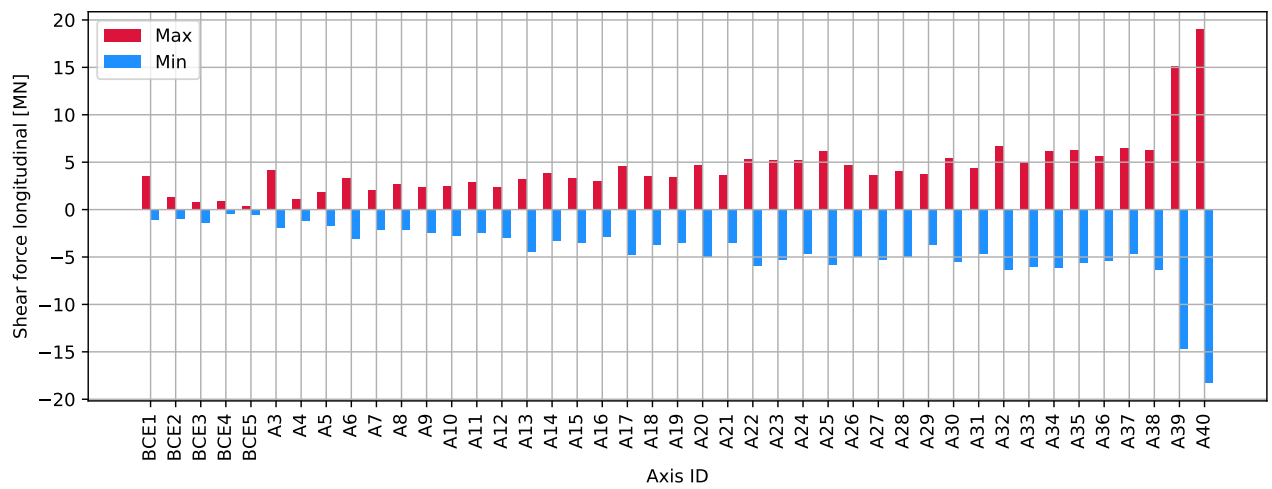


Figure 4.381: DH A35-A36 0deg - columns bottom : Shear force longitudinal [MN]

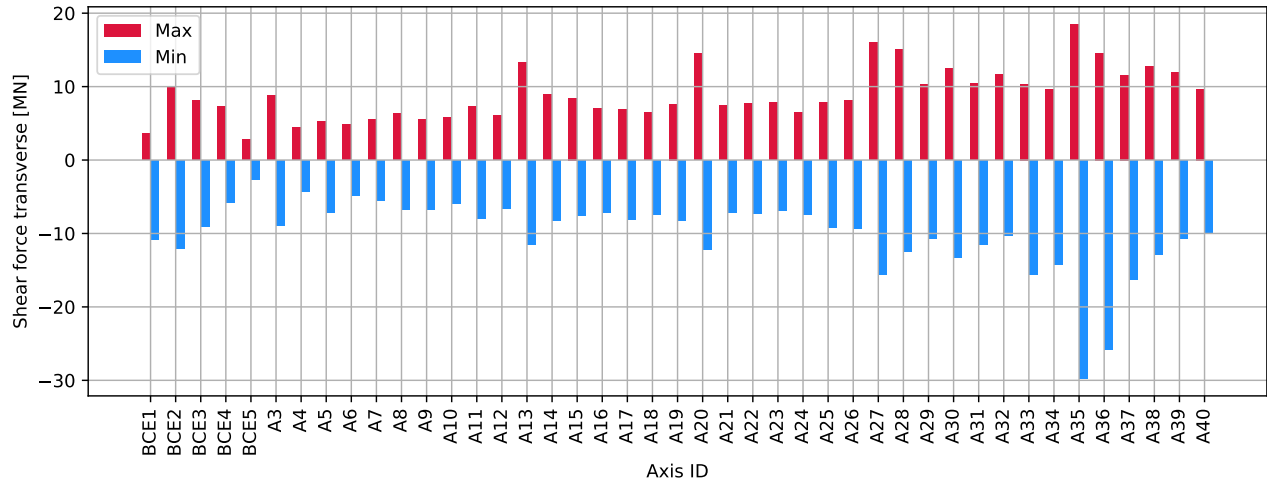


Figure 4.382: DH A35-A36 0deg - columns bottom : Shear force transverse [MN]

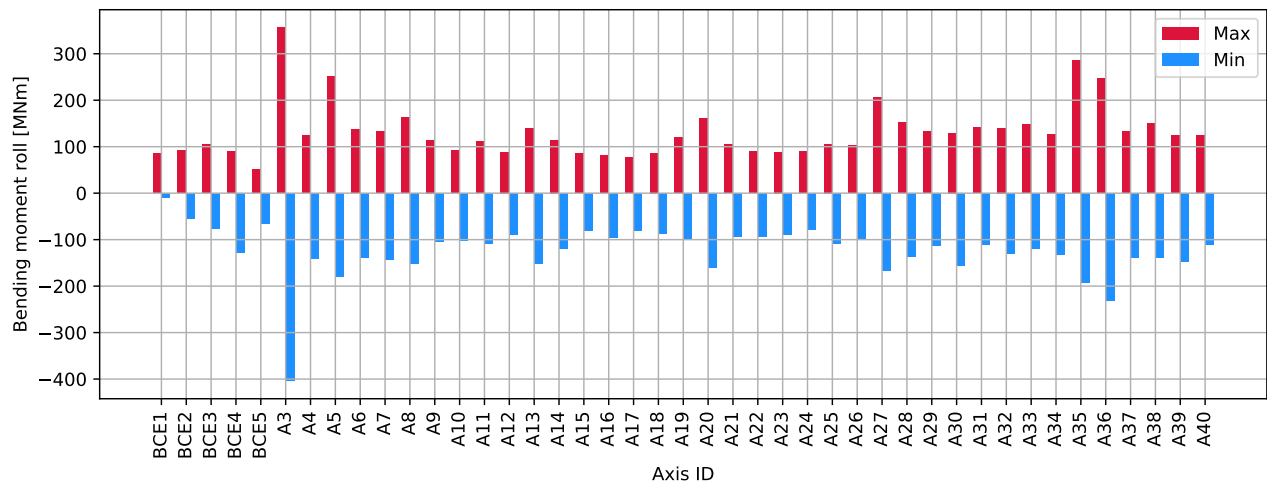


Figure 4.383: DH A35-A36 0deg - columns bottom : Bending moment roll [MNm]

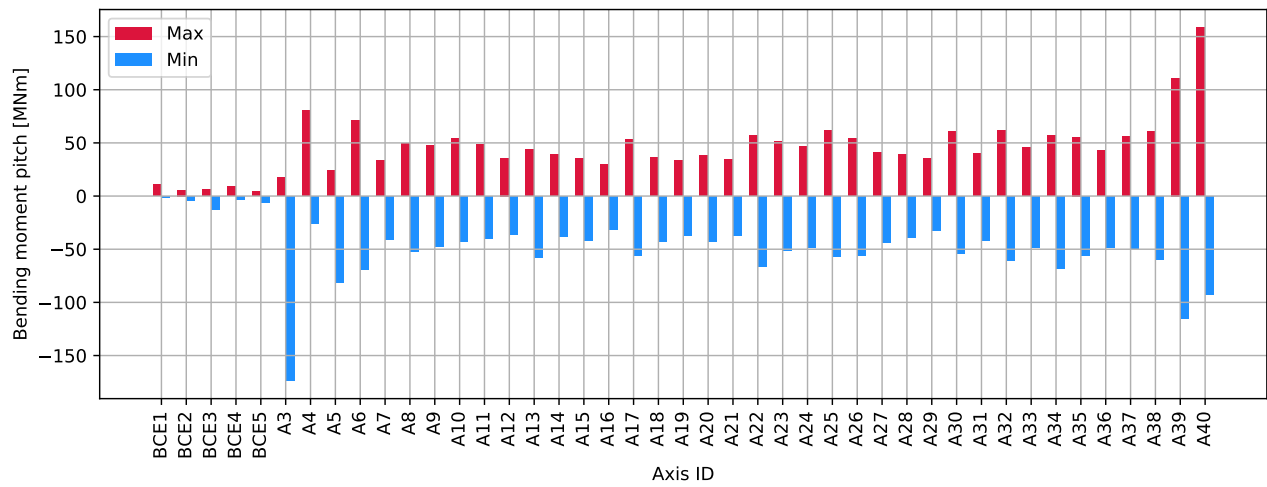


Figure 4.384: DH A35-A36 0deg - columns bottom : Bending moment pitch [MNm]

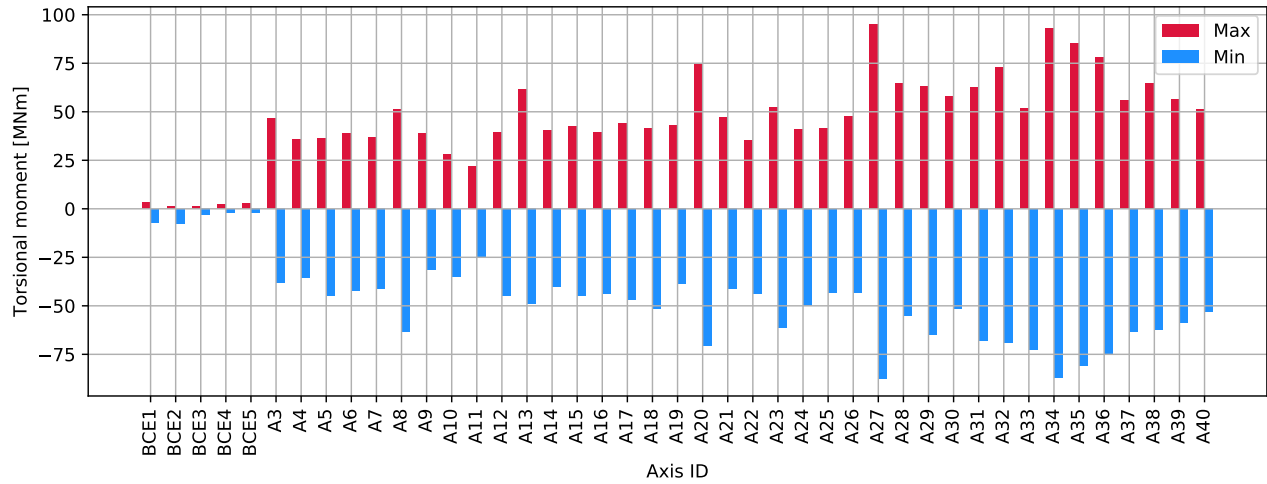


Figure 4.385: DH A35-A36 0deg - columns bottom : Torsional moment [MNm]

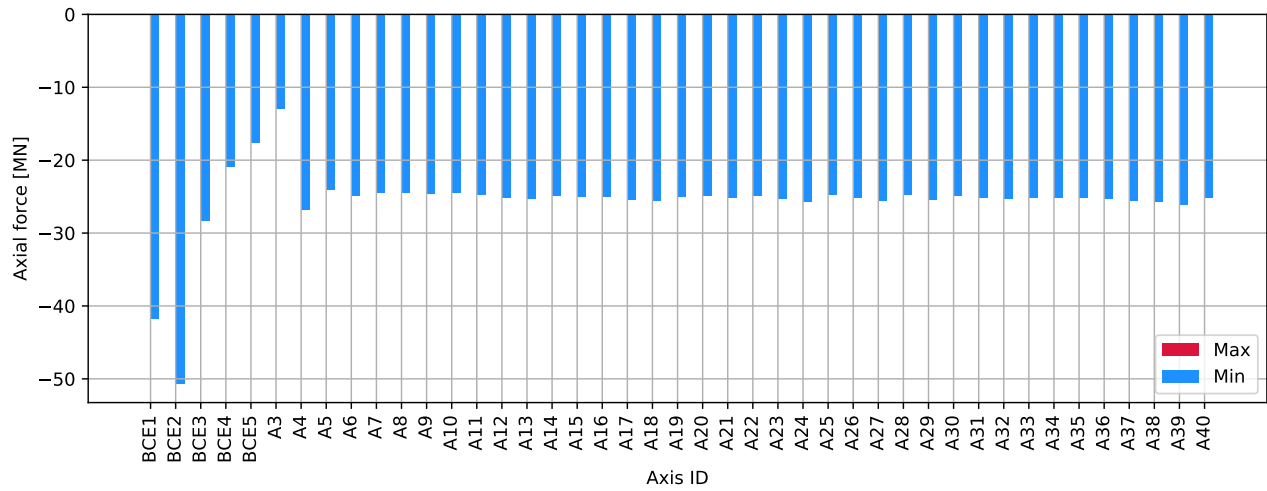


Figure 4.386: DH A35-A36 0deg - columns top : Axial force [MN]

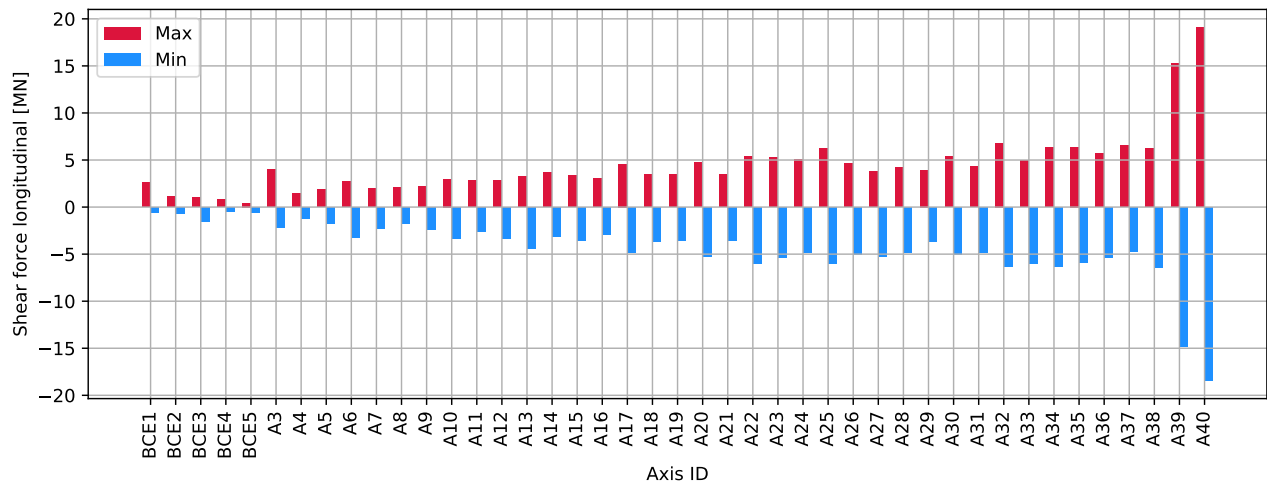


Figure 4.387: DH A35-A36 0deg - columns top : Shear force longitudinal [MN]

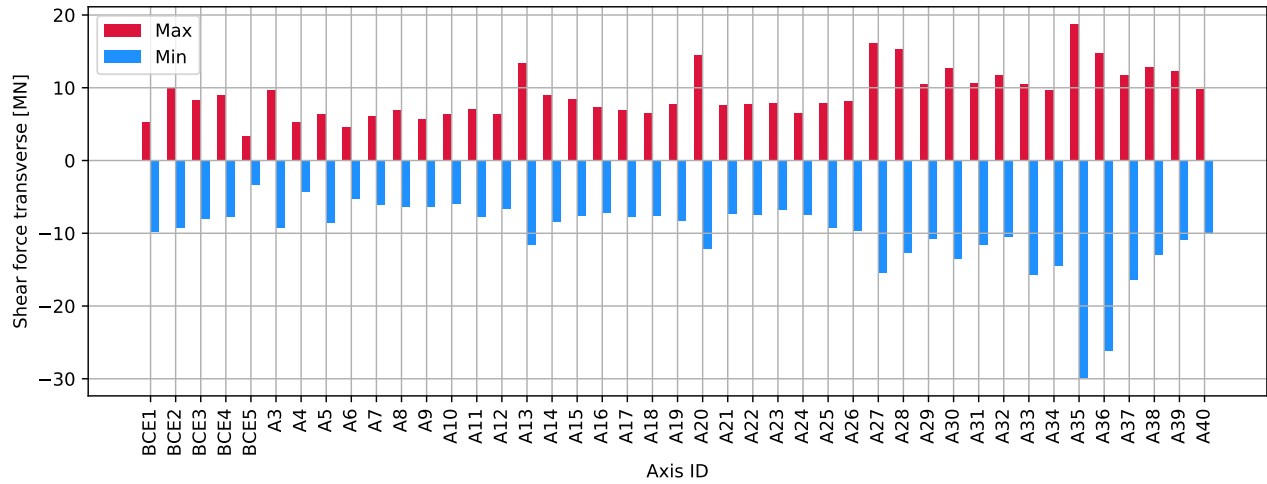


Figure 4.388: DH A35-A36 0deg - columns top : Shear force transverse [MN]

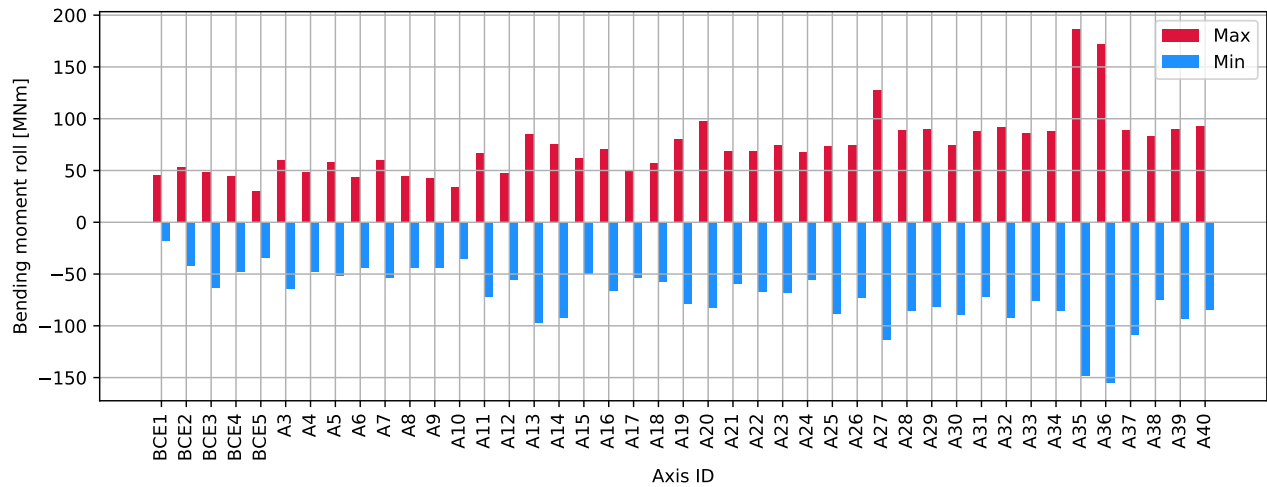


Figure 4.389: DH A35-A36 0deg - columns top : Bending moment roll [MNm]

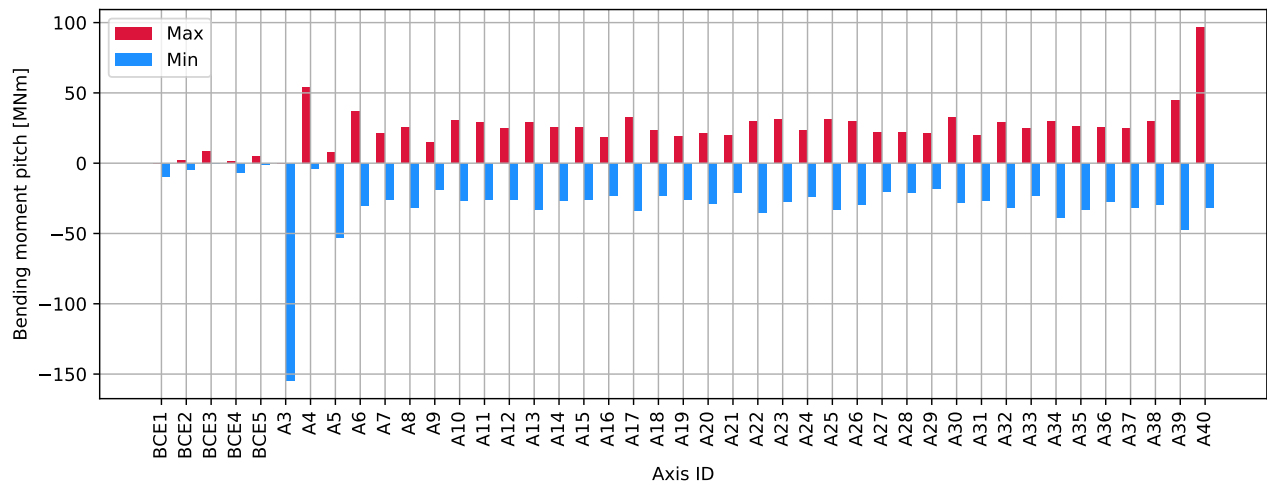


Figure 4.390: DH A35-A36 0deg - columns top : Bending moment pitch [MNm]

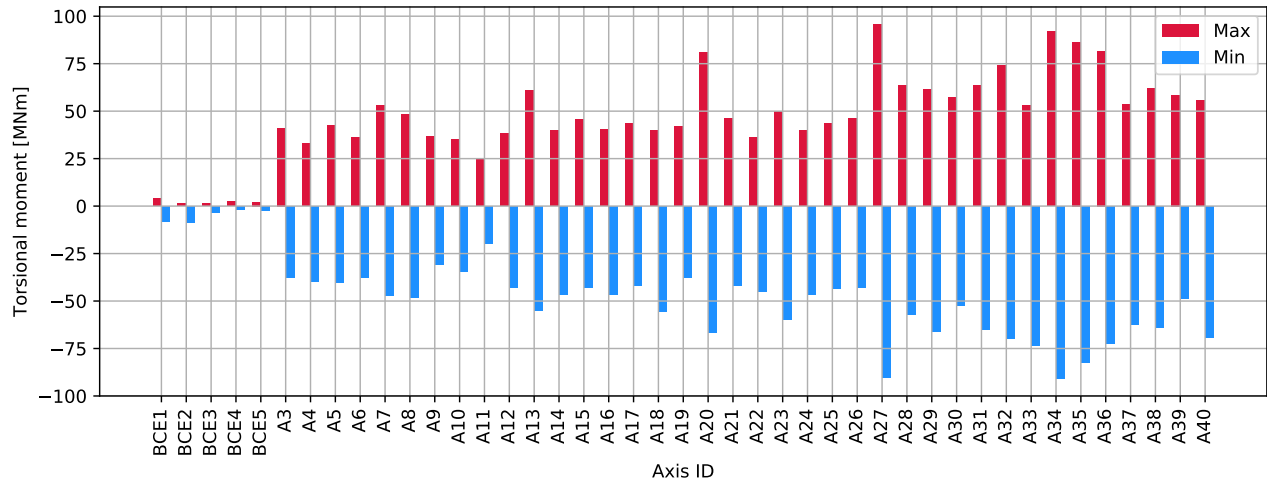


Figure 4.391: DH A35-A36 0deg - columns top : Torsional moment [MNm]

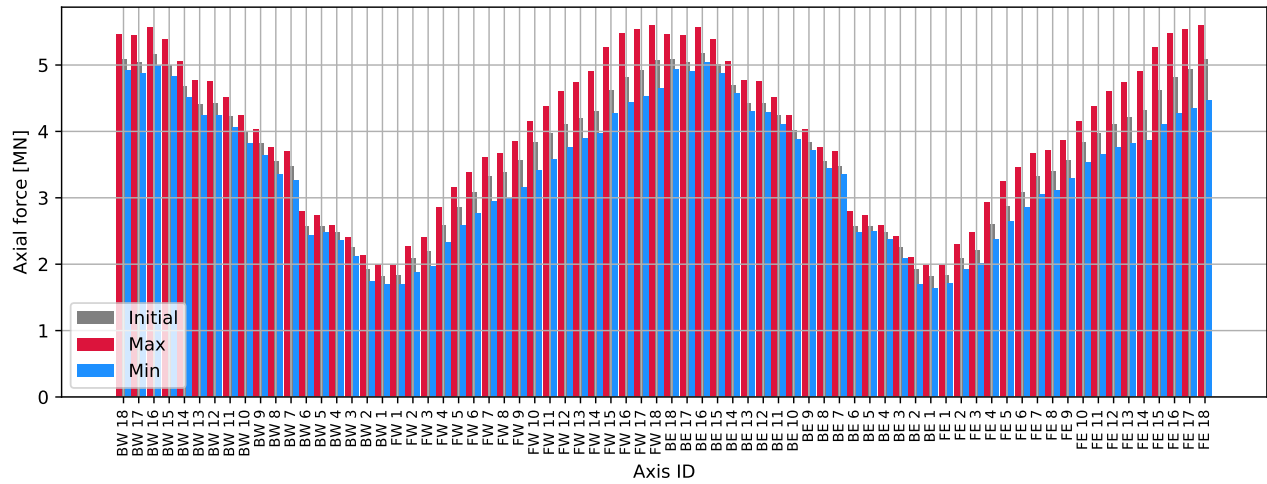


Figure 4.392: DH A35-A36 0deg - cables : Axial force [MN]

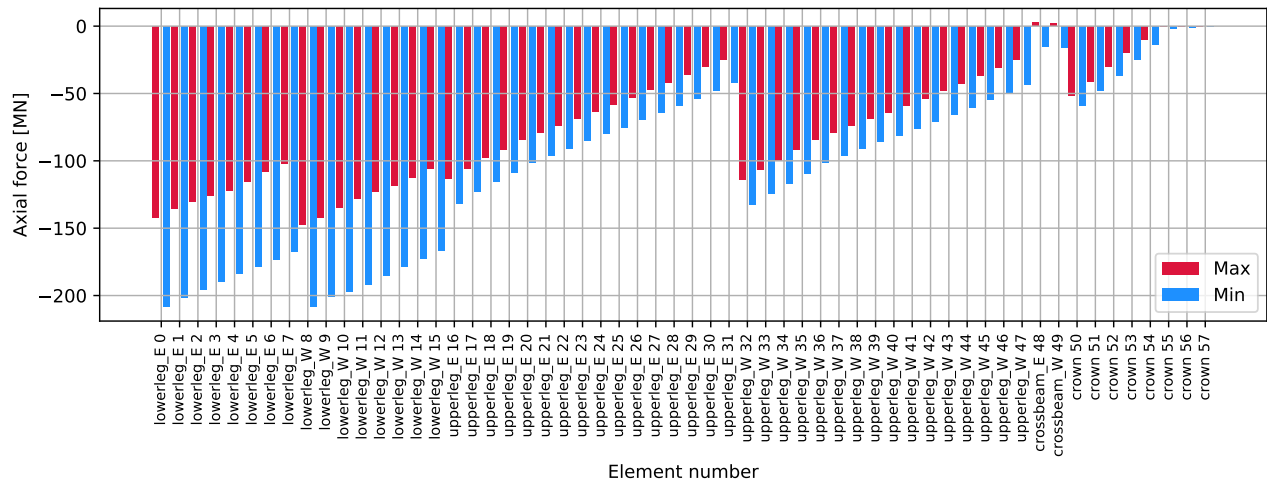


Figure 4.393: DH A35-A36 0deg - tower: Axial force [MN]

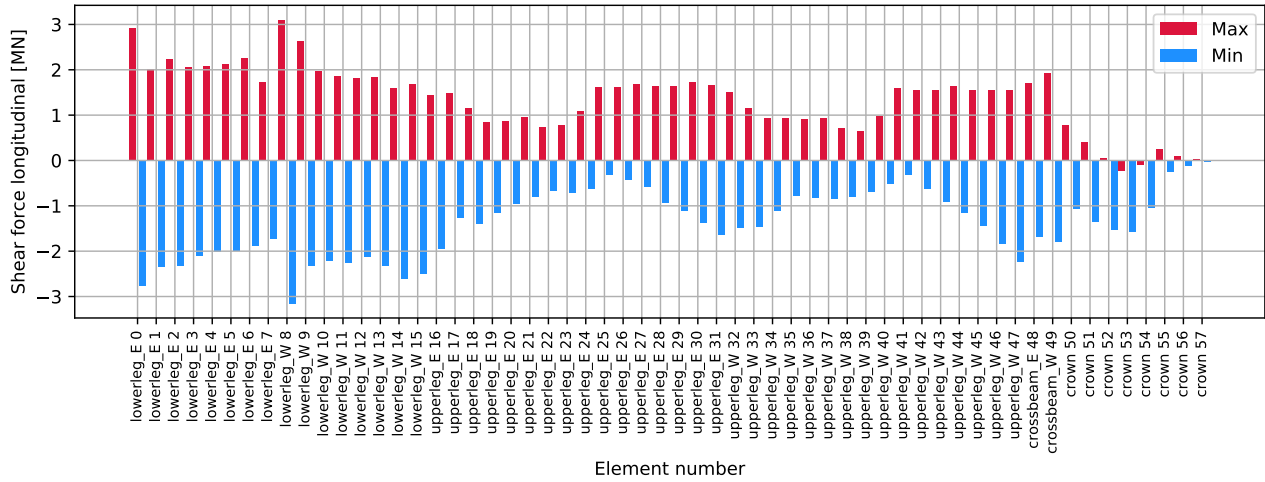


Figure 4.394: DH A35-A36 0deg - tower: Shear force longitudinal [MN]

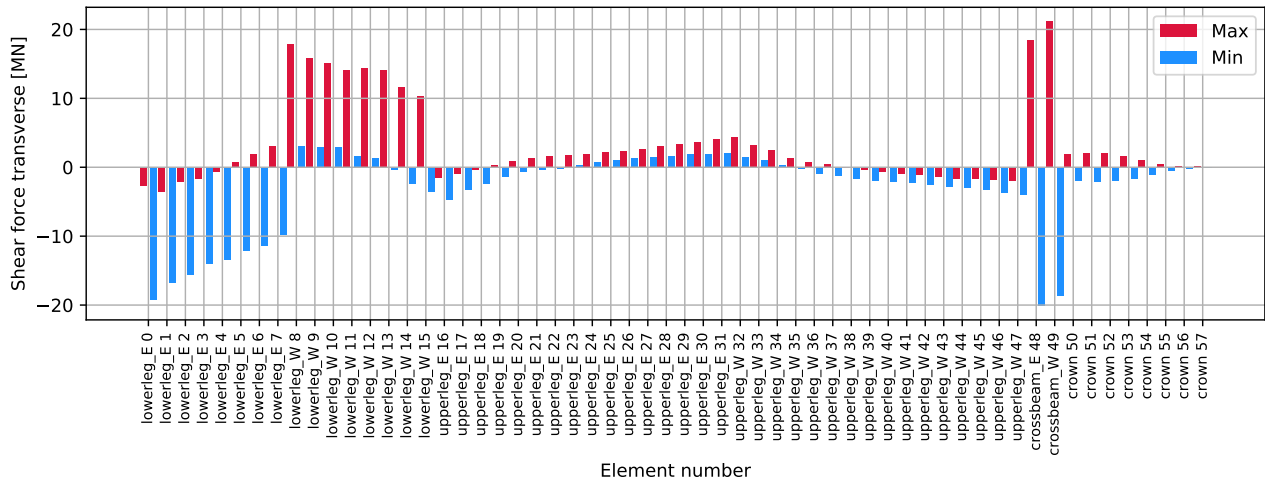


Figure 4.395: DH A35-A36 0deg - tower: Shear force transverse [MN]

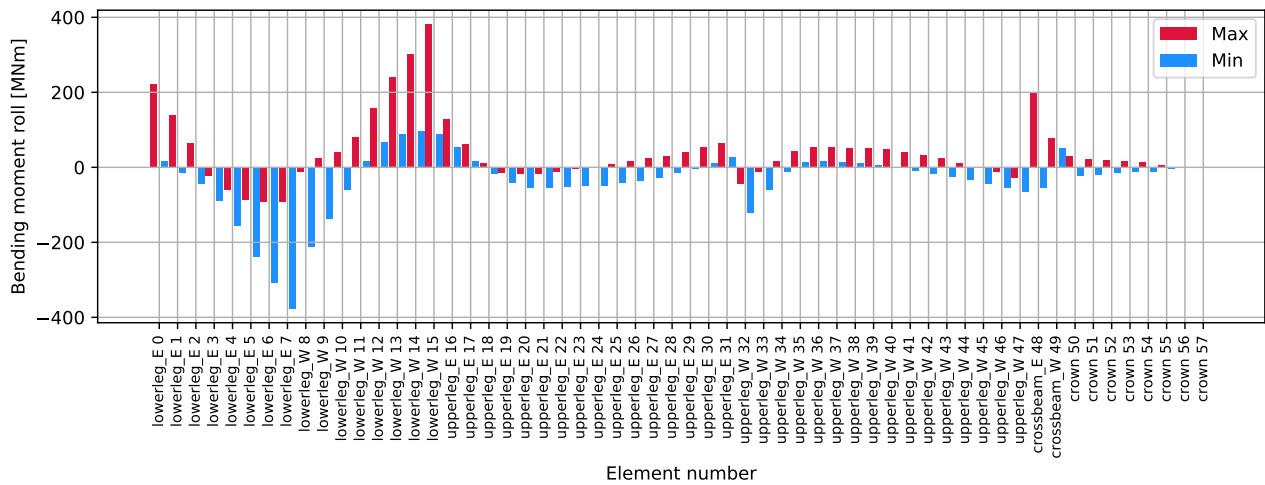


Figure 4.396: DH A35-A36 0deg - tower: Bending moment roll [MNm]

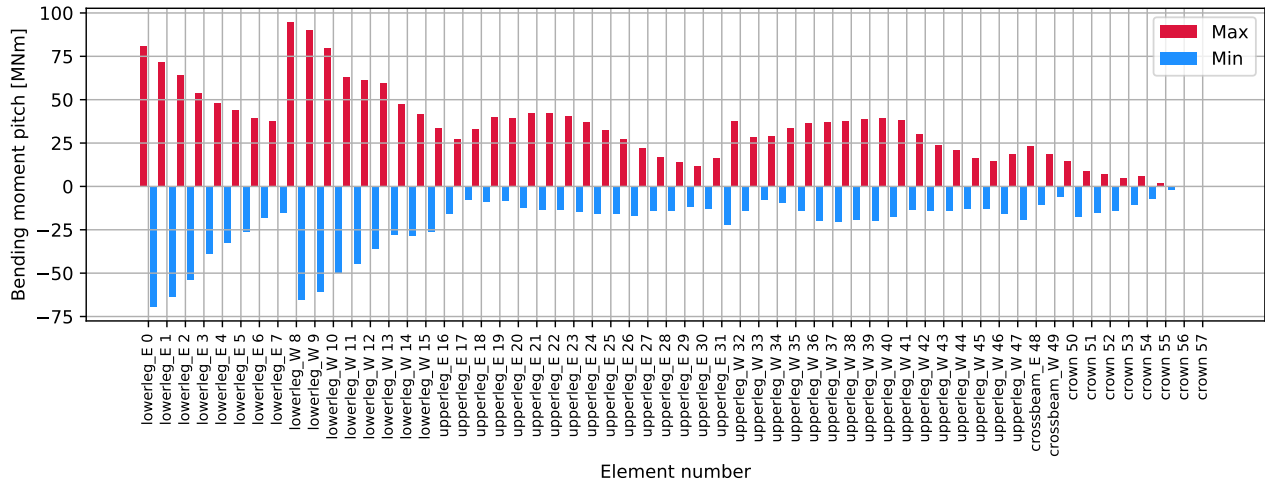


Figure 4.397: DH A35-A36 0deg - tower: Bending moment pitch [MNm]

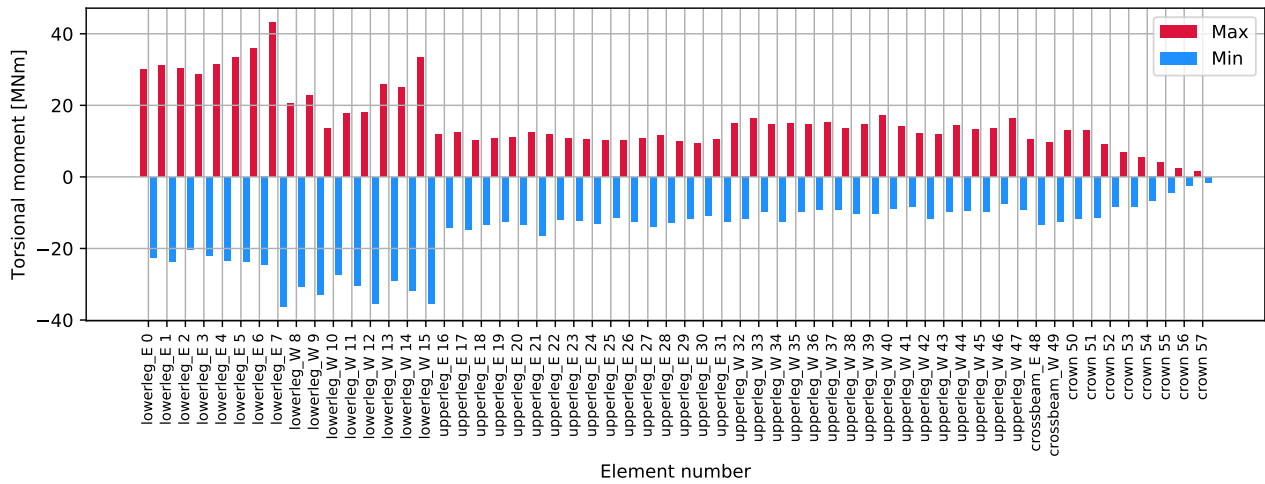


Figure 4.398: DH A35-A36 0deg - tower: Torsional moment [MNm]

4.9.3 Time series

Note : Time series are filtered using a Savitzky-Golay filter for increased readability of the time history plots. Hence, maximum values that occur due to a rapid vibration are not shown in the plots. For maximum values, refer to the tabulated data.

All elements are numbered from South to North, bottom to top

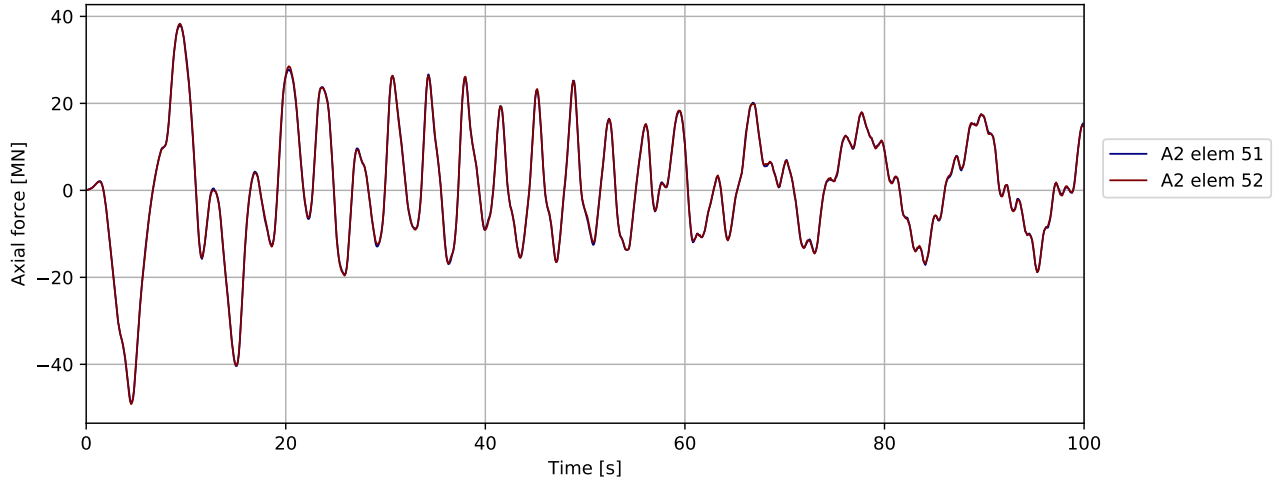


Figure 4.399: DH A35-A36 0deg - bridgegirder @ pylon: Axial force [MN]

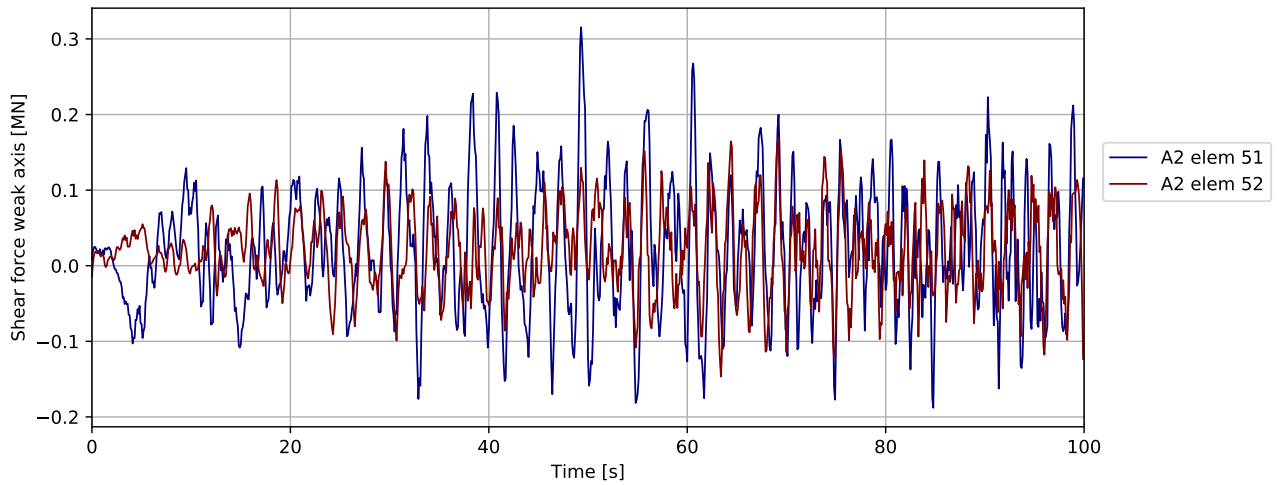


Figure 4.400: DH A35-A36 0deg - bridgegirder @ pylon: Shear force weak axis [MN]

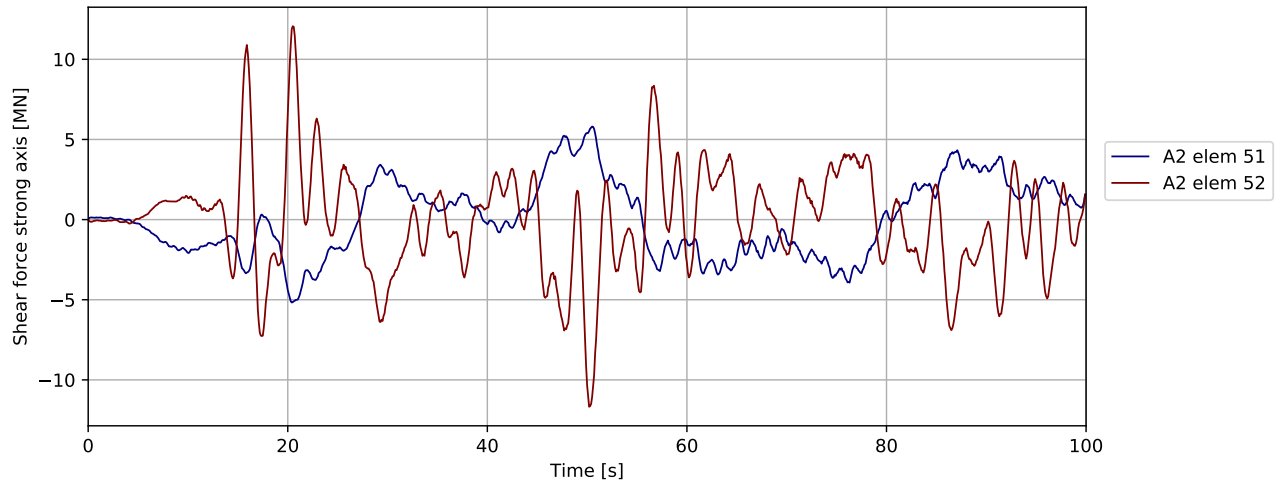


Figure 4.401: DH A35-A36 0deg - bridgegirder @ pylon: Shear force strong axis [MN]

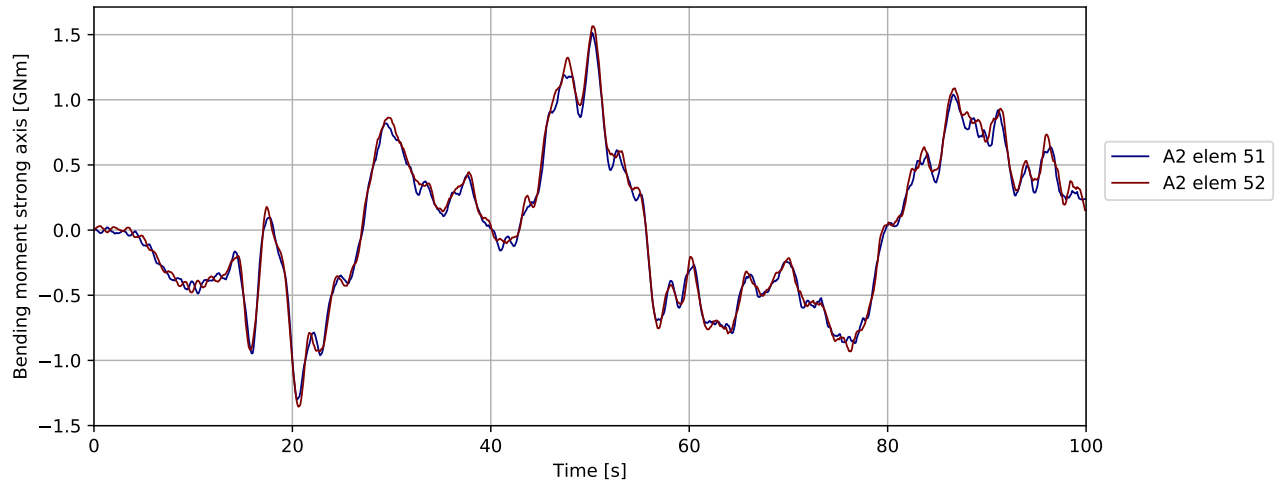


Figure 4.402: DH A35-A36 0deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

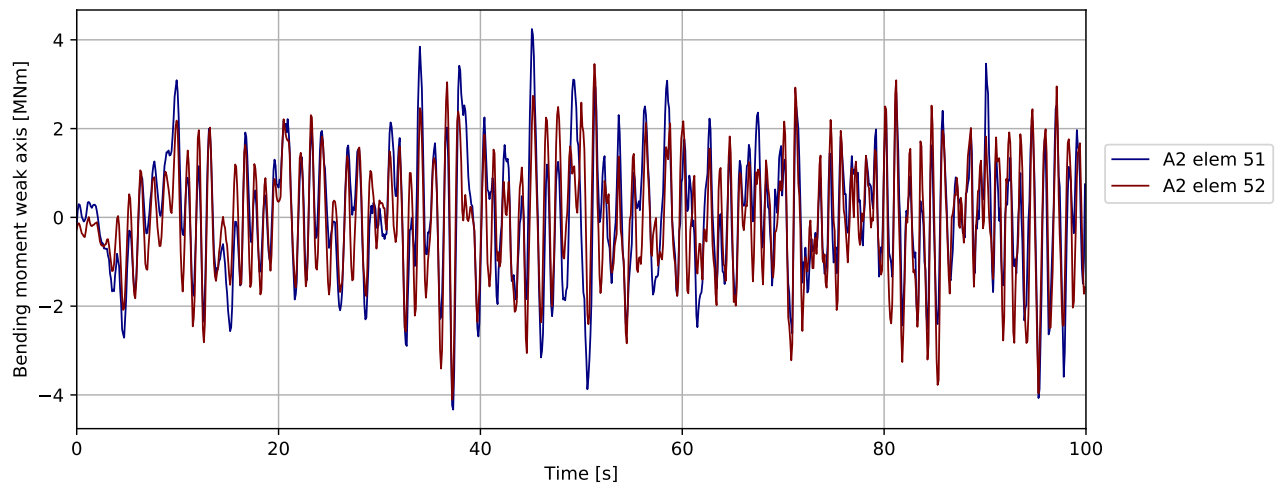


Figure 4.403: DH A35-A36 0deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

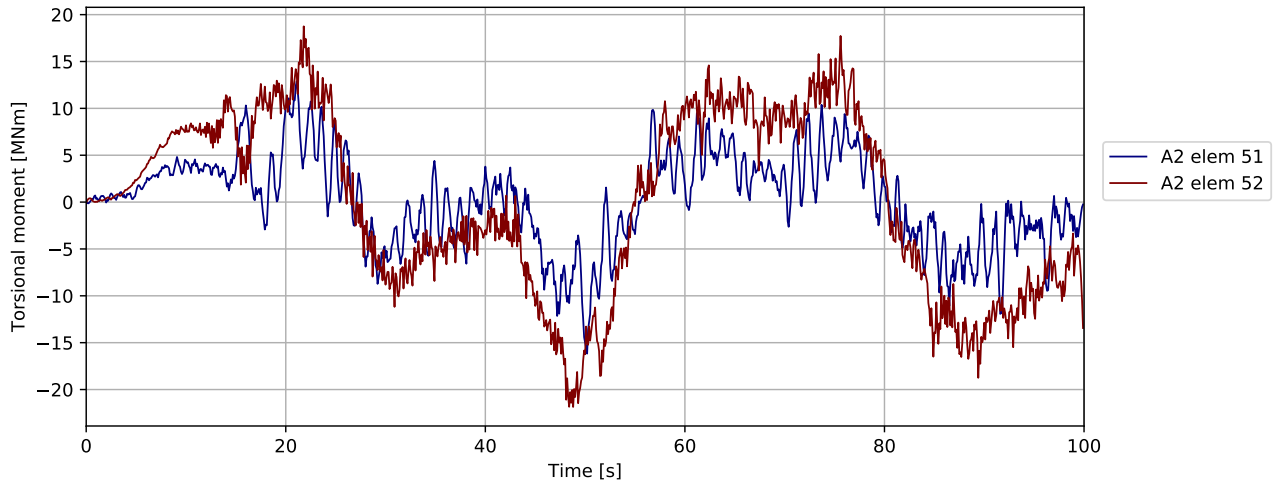


Figure 4.404: DH A35-A36 0deg - bridgegirder @ pylon: Torsional moment [MNm]

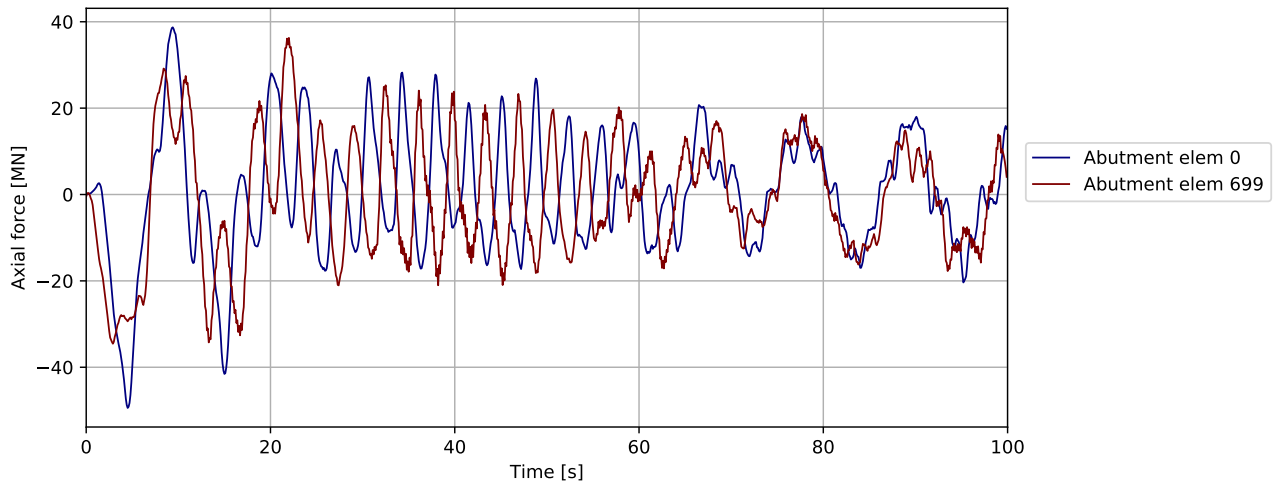


Figure 4.405: DH A35-A36 0deg - bridgegirder @abutments: Axial force [MN]

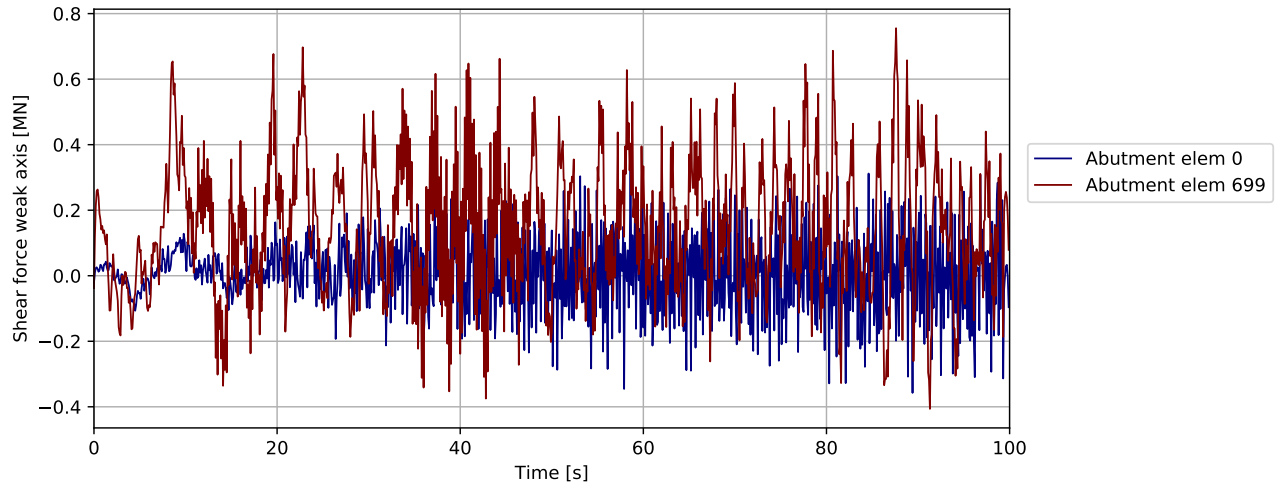


Figure 4.406: DH A35-A36 0deg - bridgegirder @abutments: Shear force weak axis [MN]

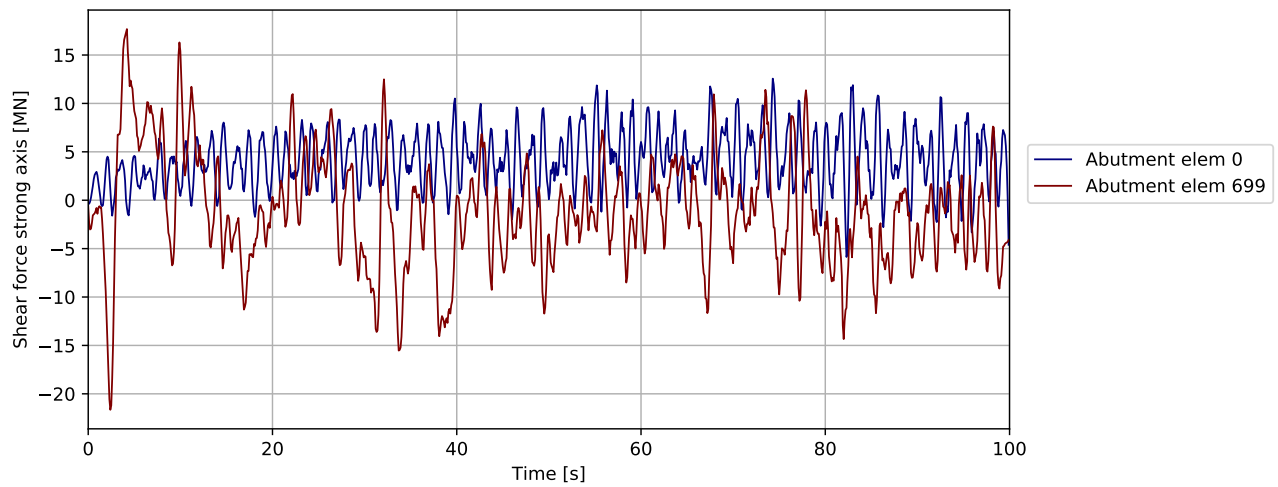


Figure 4.407: DH A35-A36 0deg - bridgegirder @abutments: Shear force strong axis [MN]

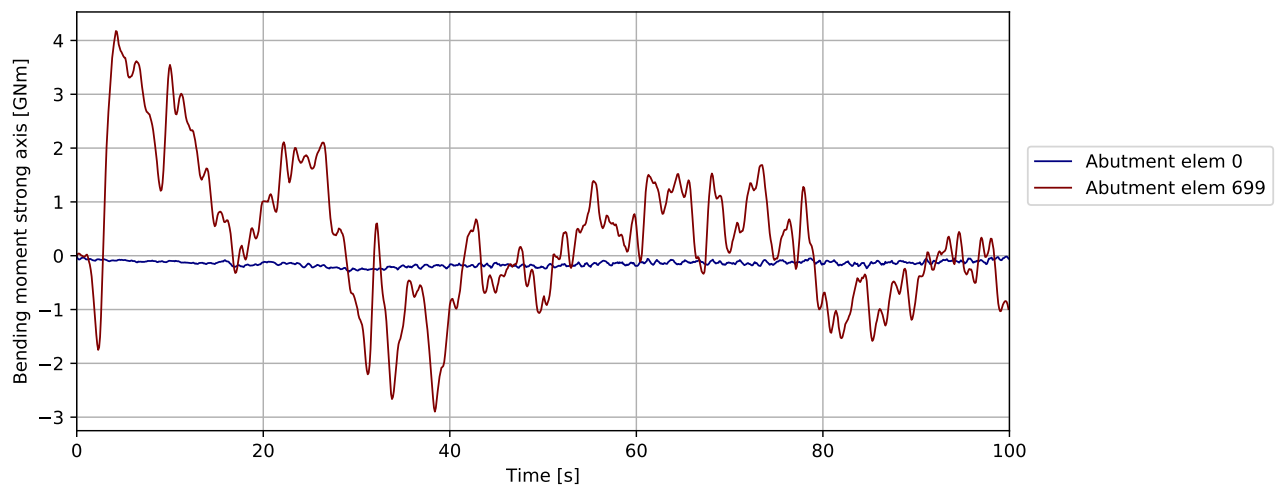


Figure 4.408: DH A35-A36 0deg - bridgegirder @abutments: Bending moment strong axis [GNm]

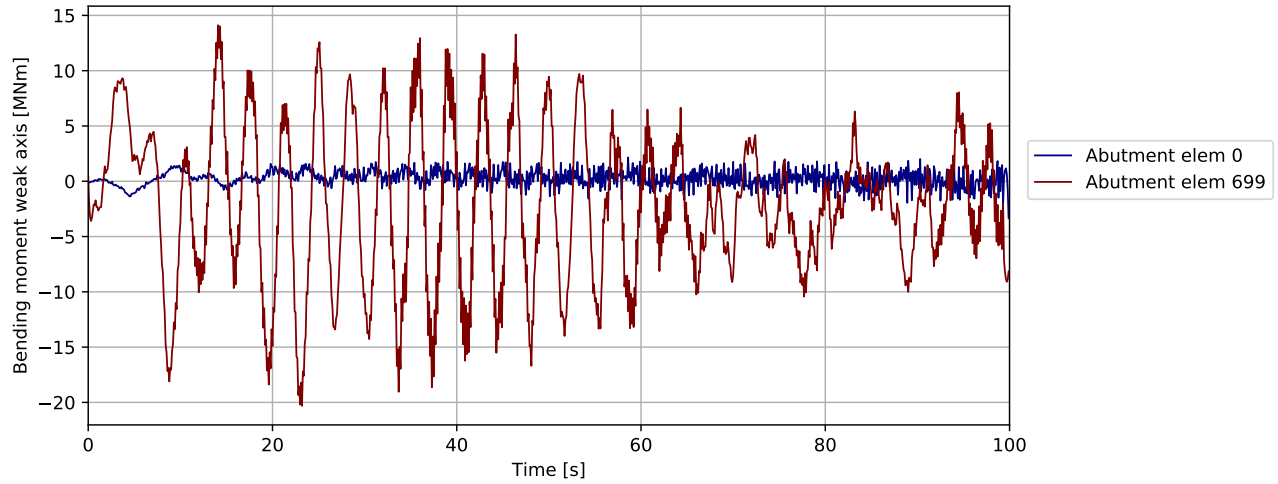


Figure 4.409: DH A35-A36 0deg - bridgegirder @abutments: Bending moment weak axis [MNm]

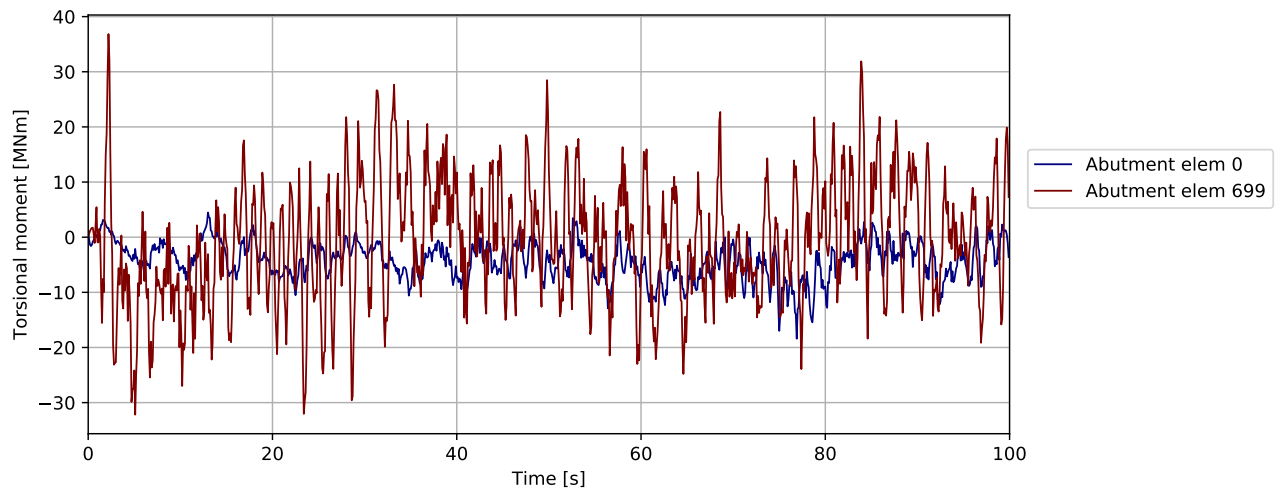


Figure 4.410: DH A35-A36 0deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

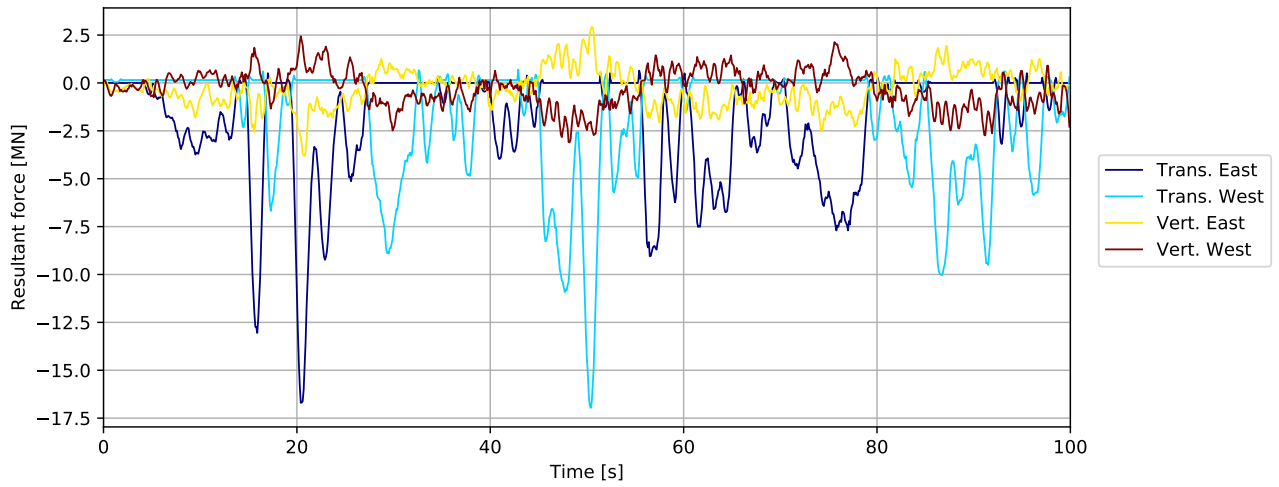


Figure 4.411: DH A35-A36 0deg - bridgegirder supports in tower: Resultant force [MN]

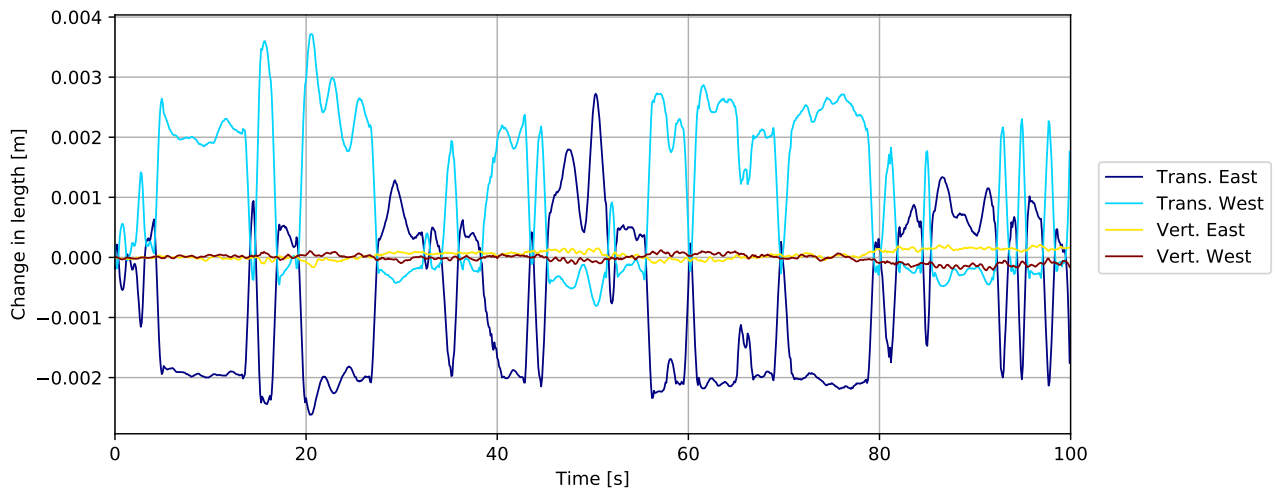


Figure 4.412: DH A35-A36 0deg - bridgegirder supports in tower: Change in length [m]

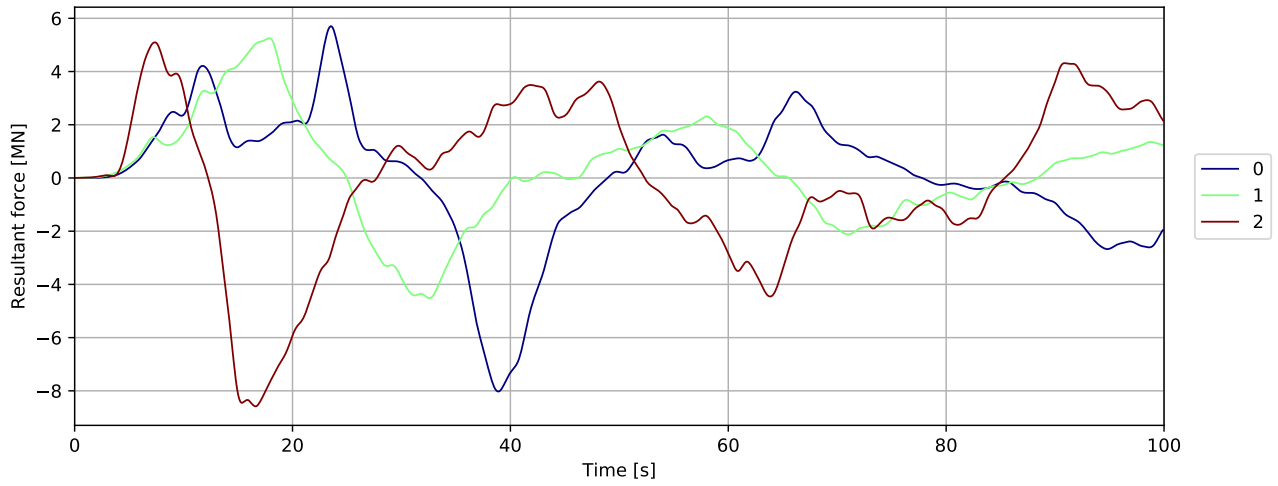


Figure 4.413: Mooring force

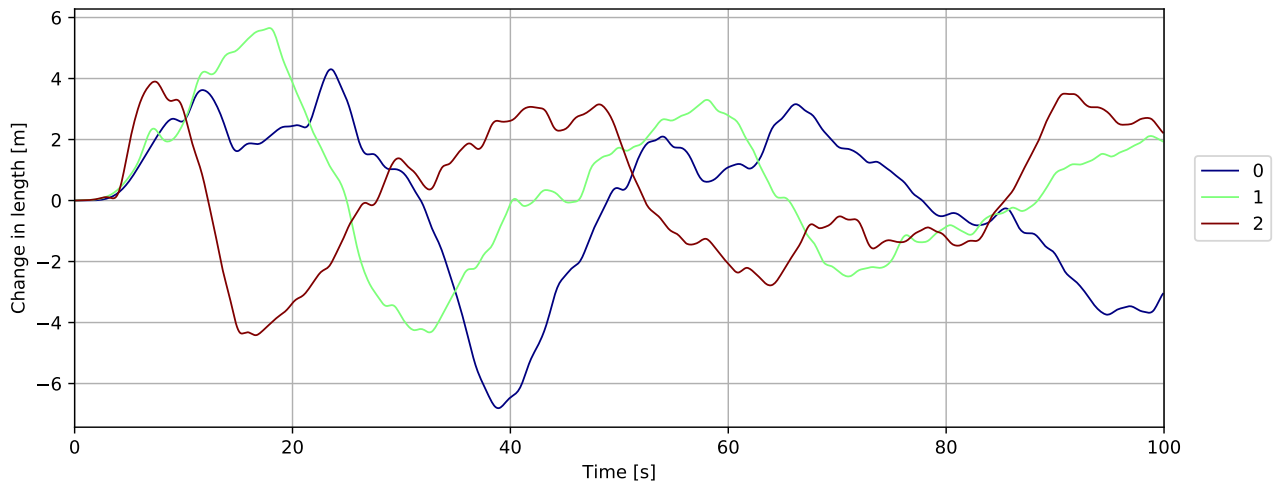


Figure 4.414: Mooring displacement

4.10 Deck house A35-A36 0deg

4.10.1 Overall response

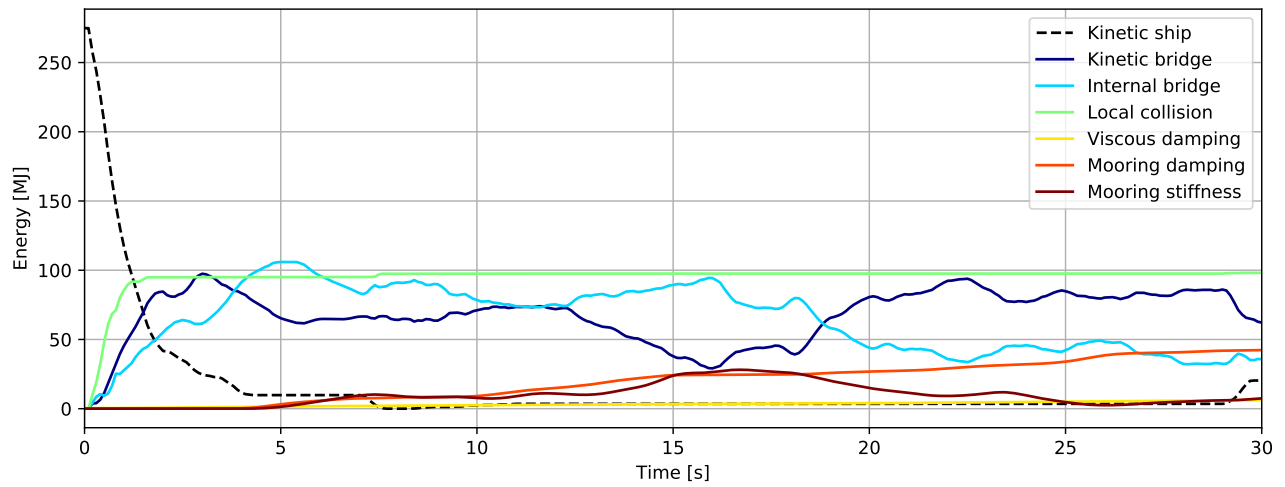


Figure 4.415: Energy [MJ] - initial phase

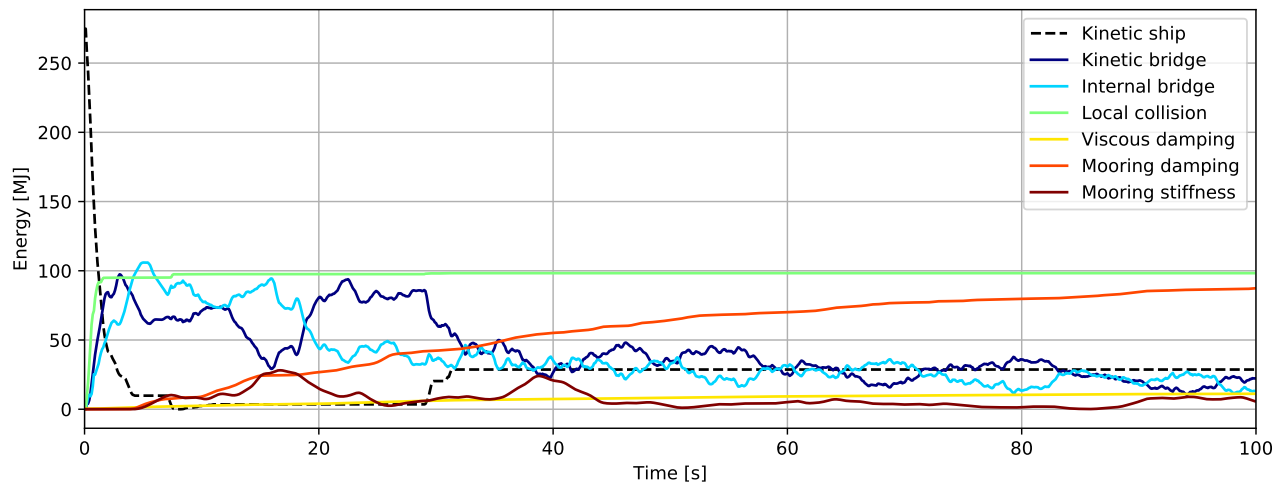


Figure 4.416: Energy [MJ]

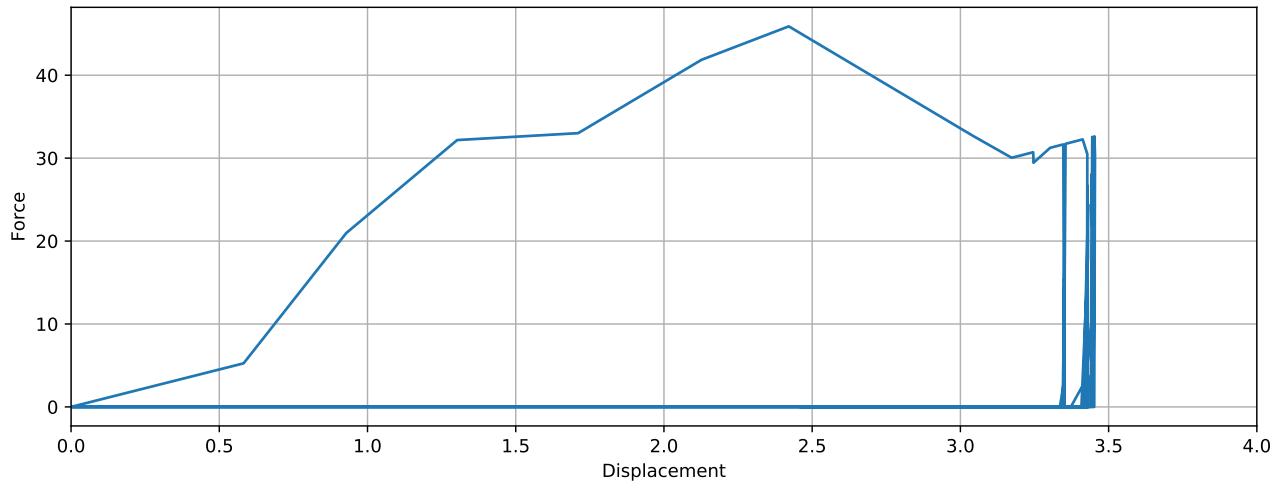


Figure 4.417: Simulated local collision force-displacement

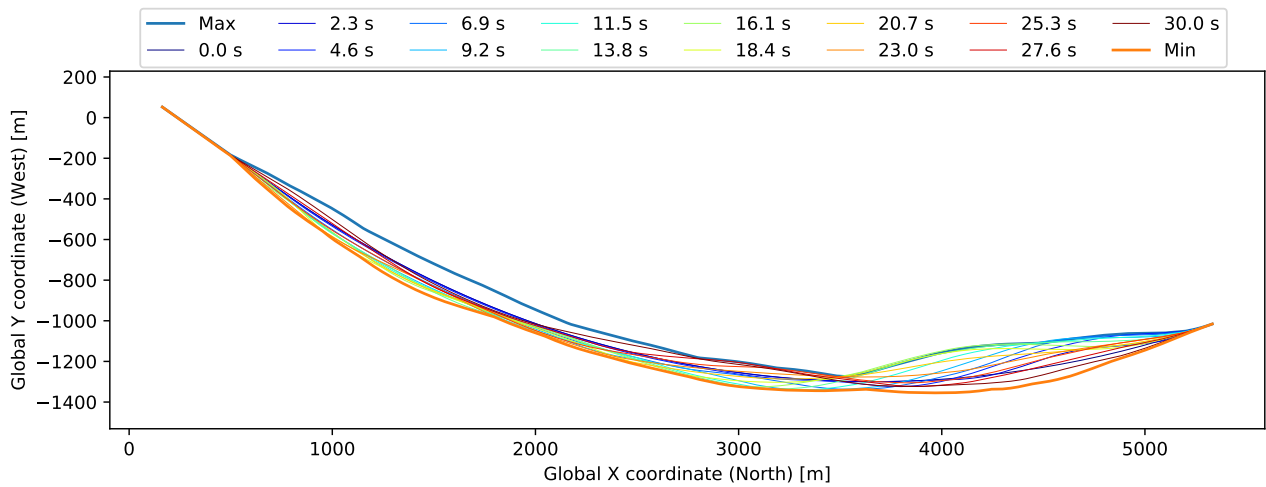


Figure 4.418: Bridgegirder deflection (10x displacement scaling)

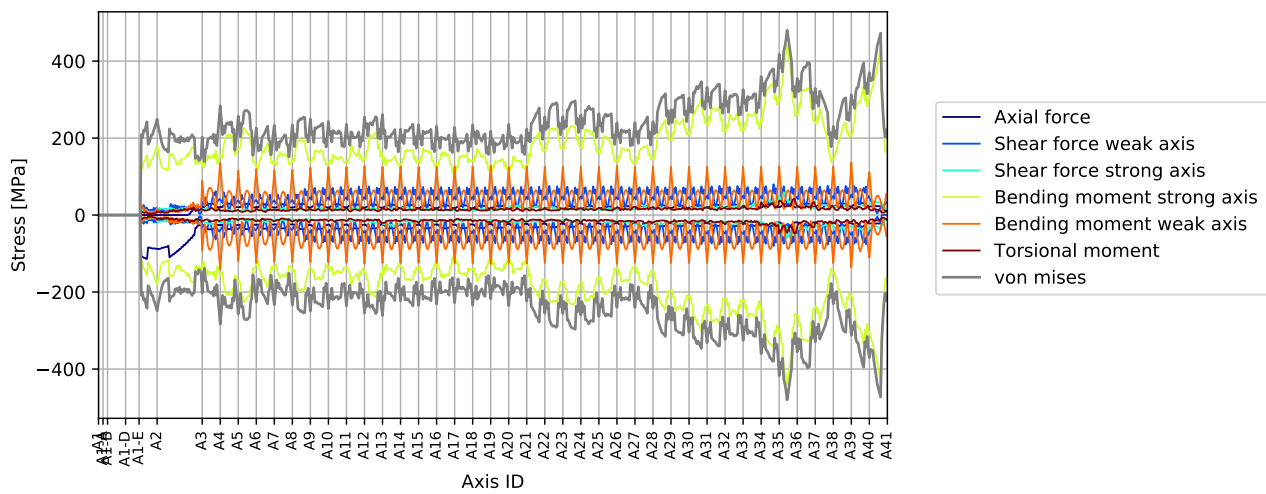


Figure 4.419: Stress envelope from all force components

4.10.2 Envelope plots

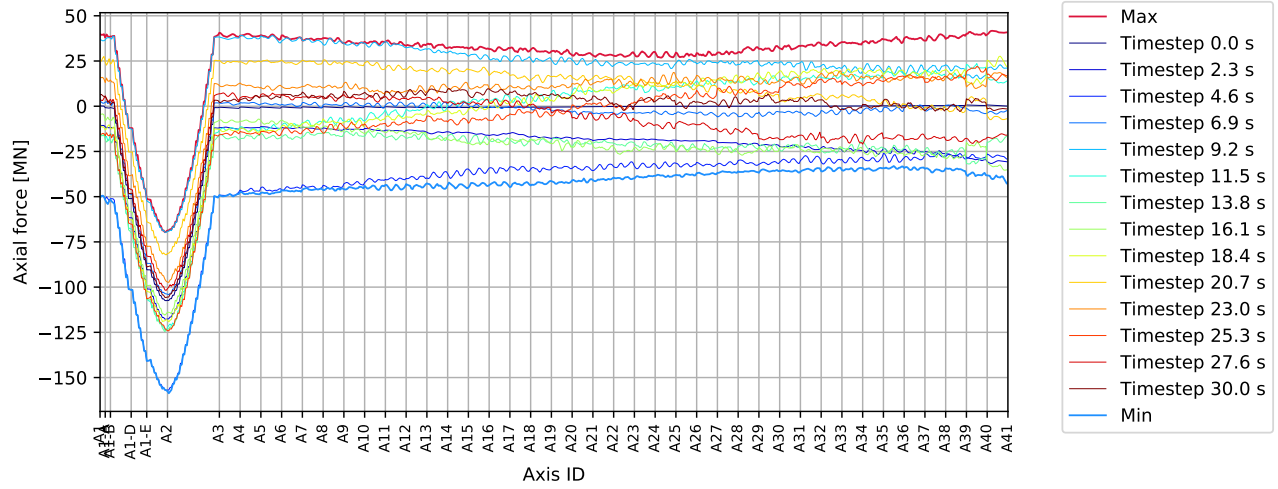


Figure 4.420: DH A35-A36 0deg - bridgегirder : Axial force [MN]

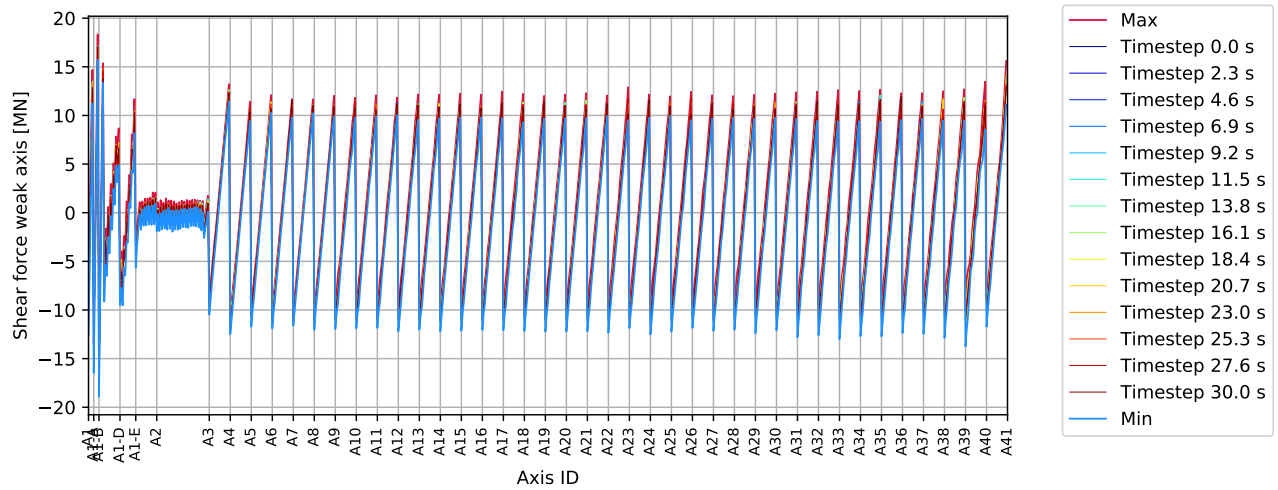


Figure 4.421: DH A35-A36 0deg - bridgегirder : Shear force weak axis [MN]

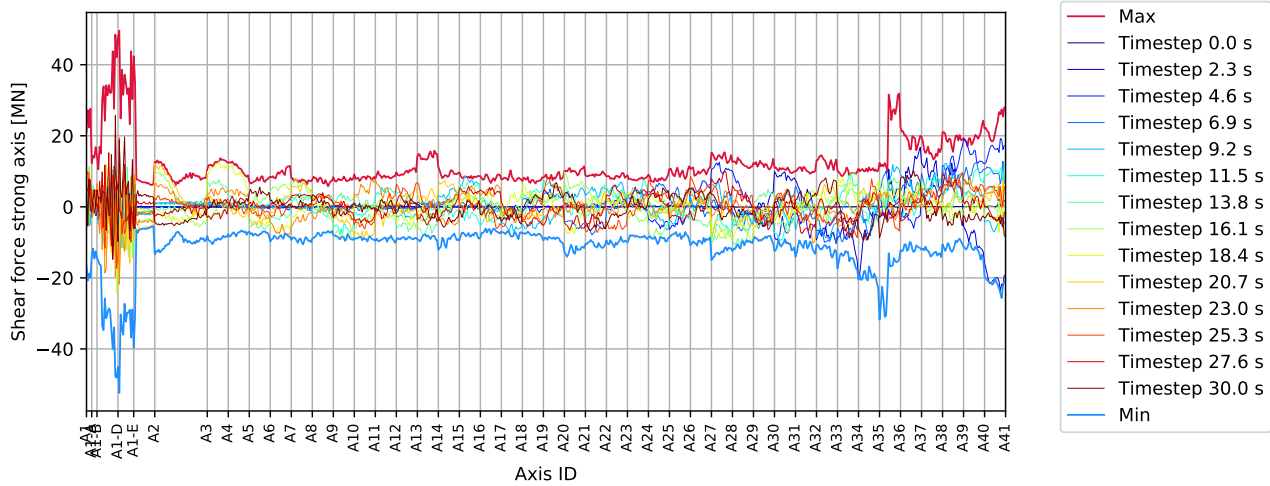


Figure 4.422: DH A35-A36 0deg - bridgegirder : Shear force strong axis [MN]

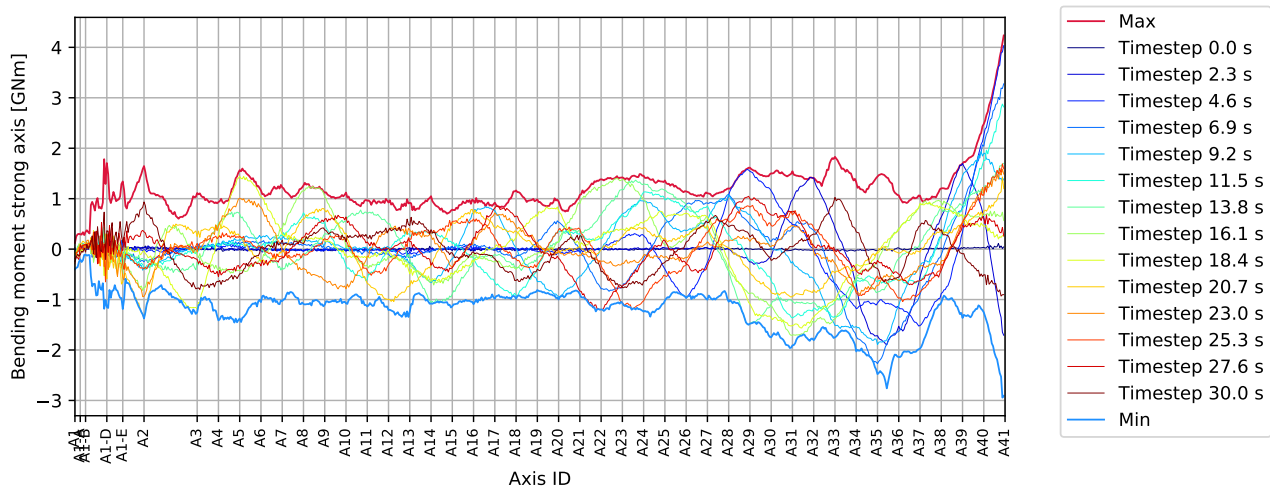


Figure 4.423: DH A35-A36 0deg - bridgegirder : Bending moment strong axis [GNm]

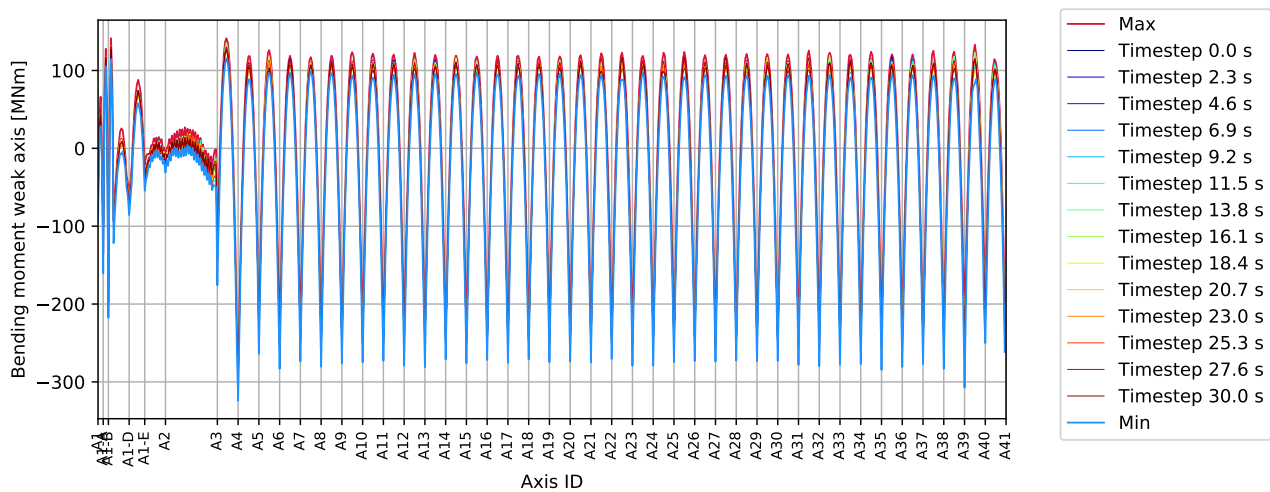


Figure 4.424: DH A35-A36 0deg - bridgegirder : Bending moment weak axis [MNm]

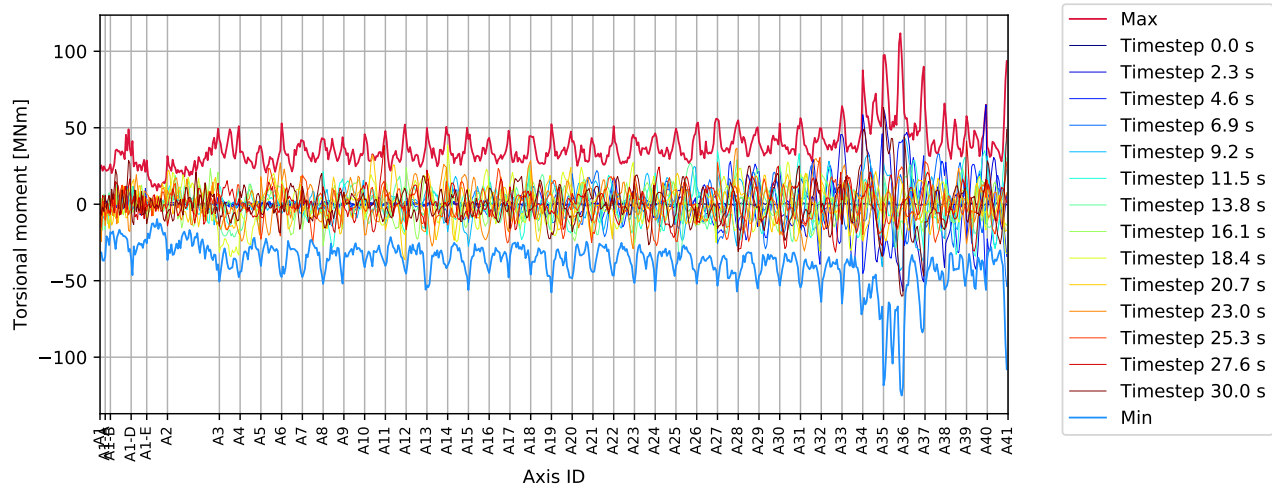


Figure 4.425: DH A35-A36 0deg - bridgegirder : Torsional moment [MNm]

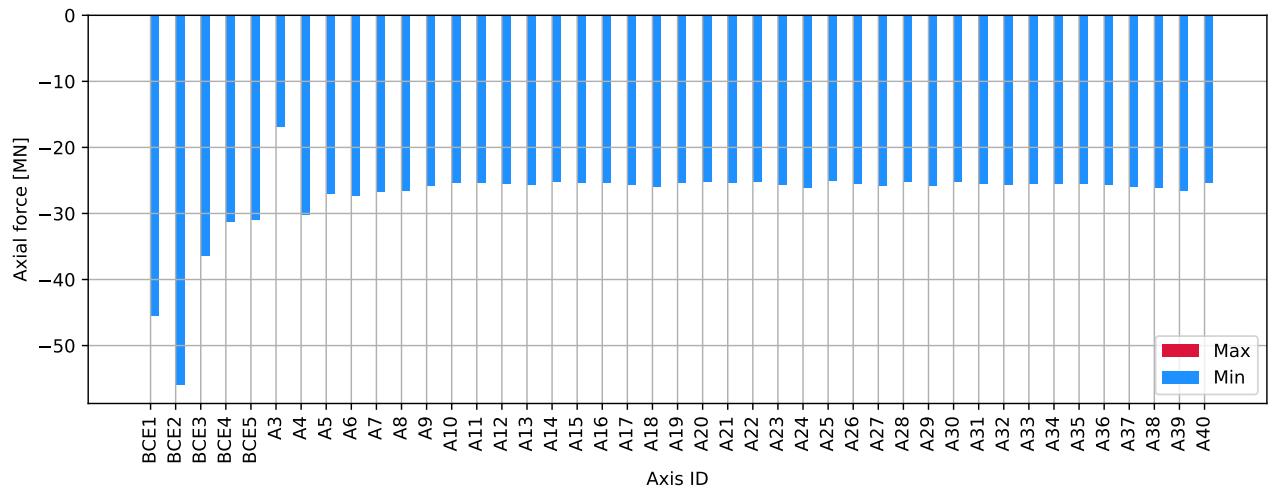


Figure 4.426: DH A35-A36 0deg - columns bottom : Axial force [MN]

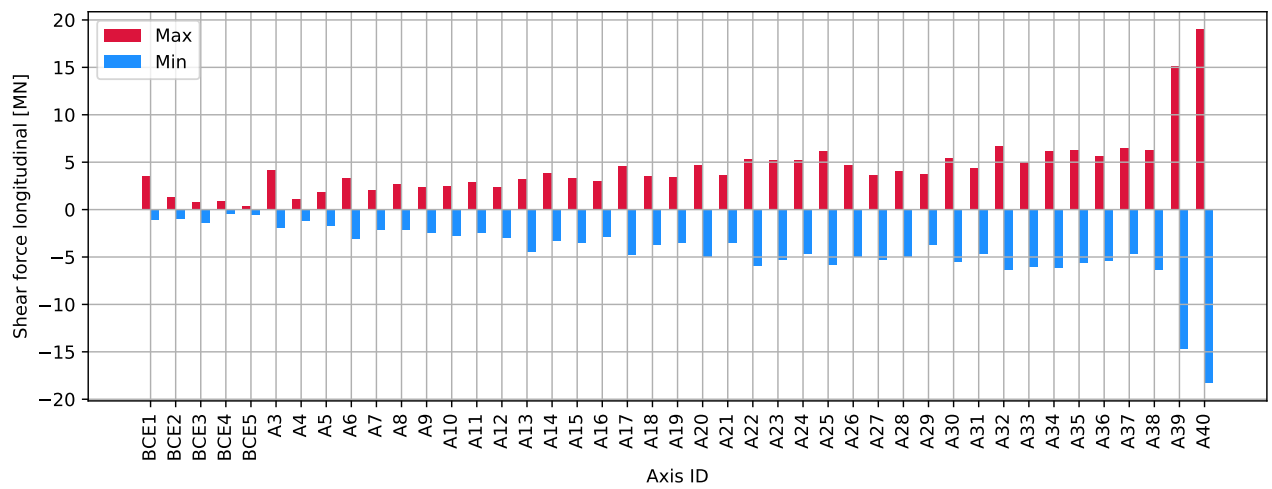


Figure 4.427: DH A35-A36 0deg - columns bottom : Shear force longitudinal [MN]

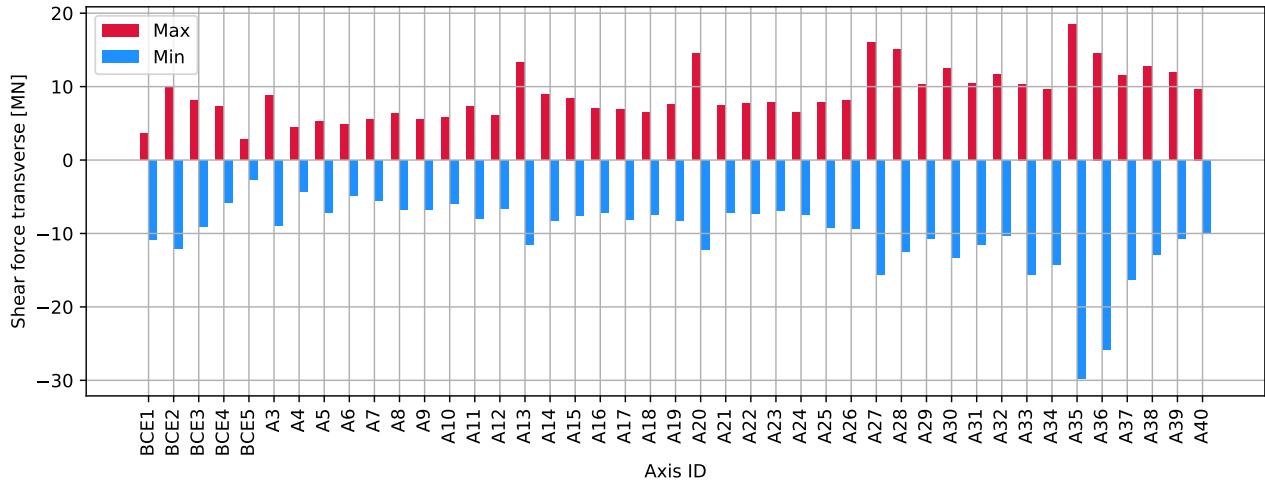


Figure 4.428: DH A35-A36 0deg - columns bottom : Shear force transverse [MN]

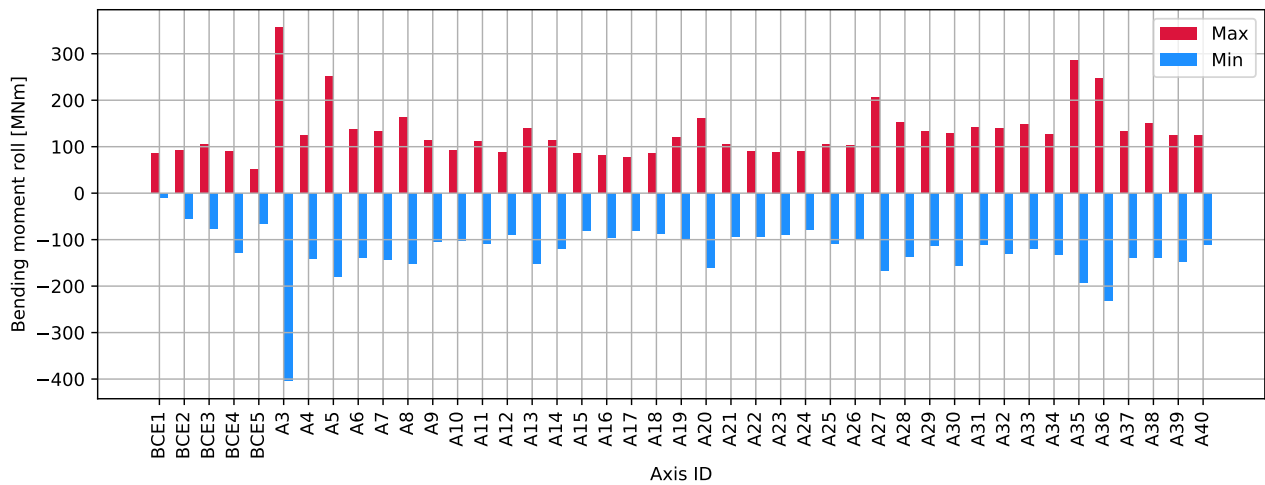


Figure 4.429: DH A35-A36 0deg - columns bottom : Bending moment roll [MNm]

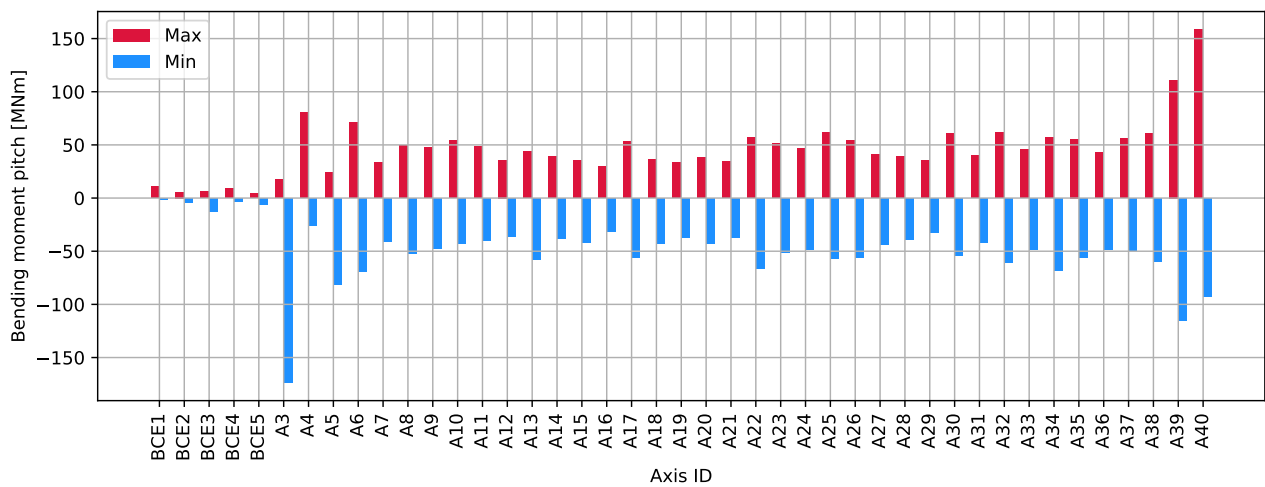


Figure 4.430: DH A35-A36 0deg - columns bottom : Bending moment pitch [MNm]

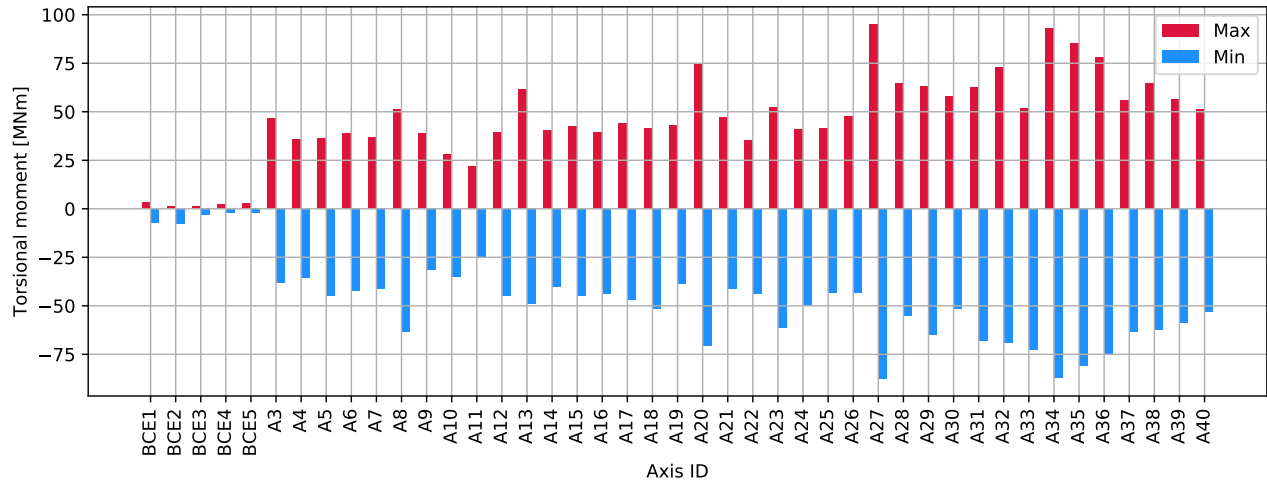


Figure 4.431: DH A35-A36 0deg - columns bottom : Torsional moment [MNm]

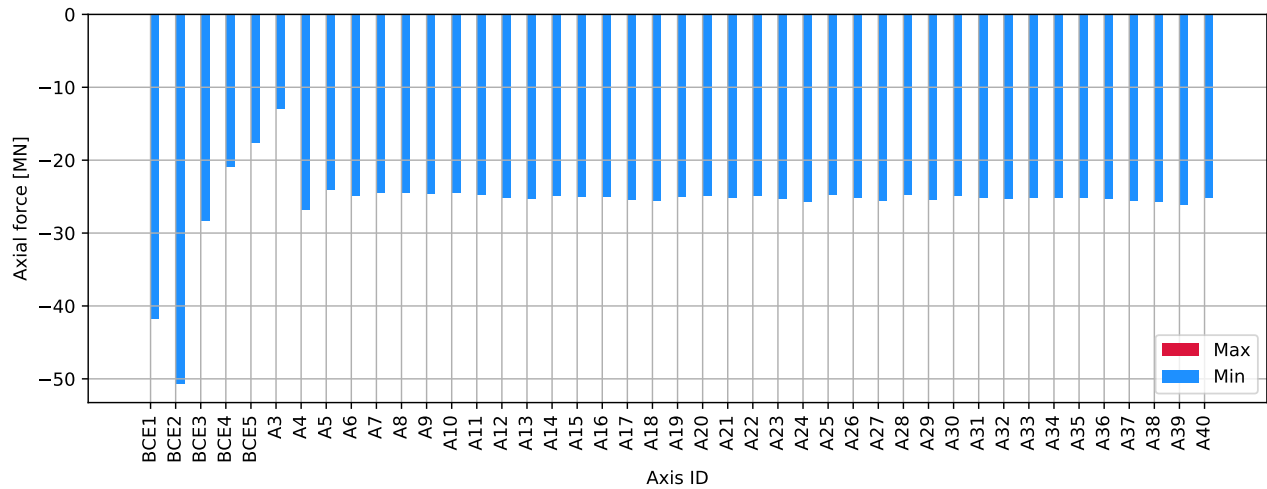


Figure 4.432: DH A35-A36 0deg - columns top : Axial force [MN]

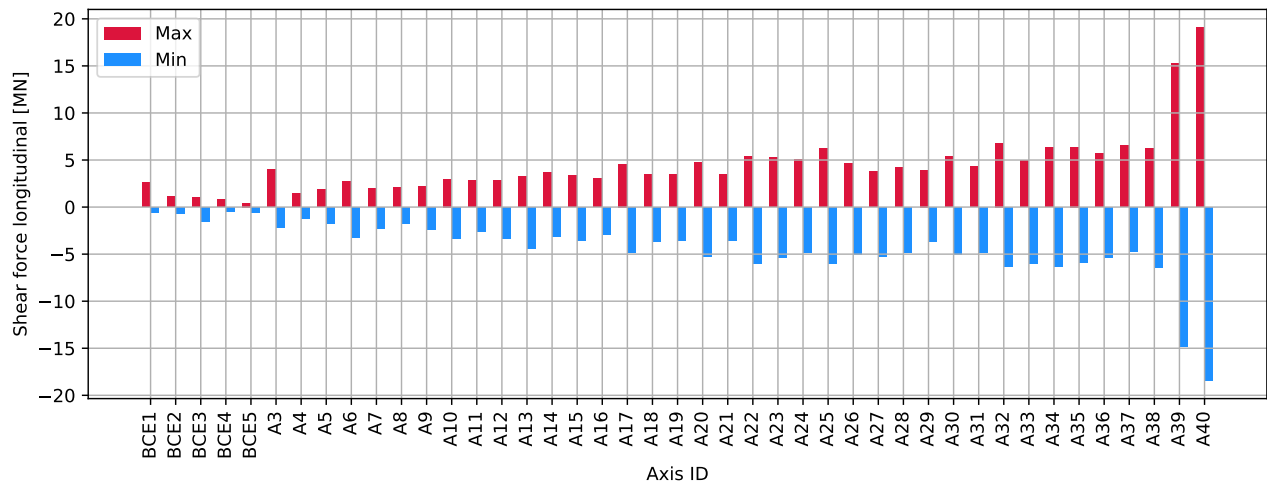


Figure 4.433: DH A35-A36 0deg - columns top : Shear force longitudinal [MN]

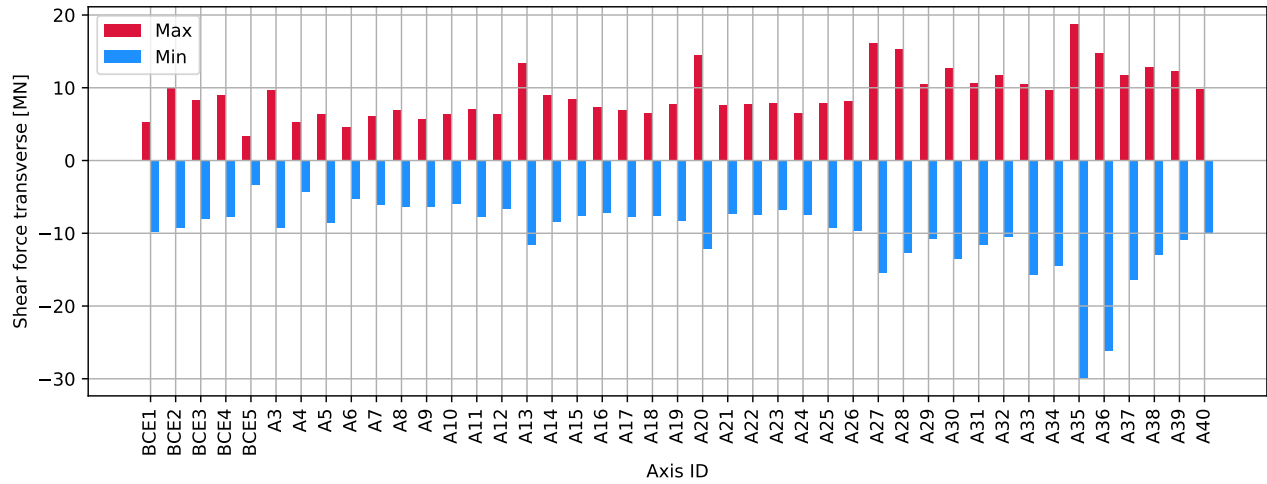


Figure 4.434: DH A35-A36 0deg - columns top : Shear force transverse [MN]

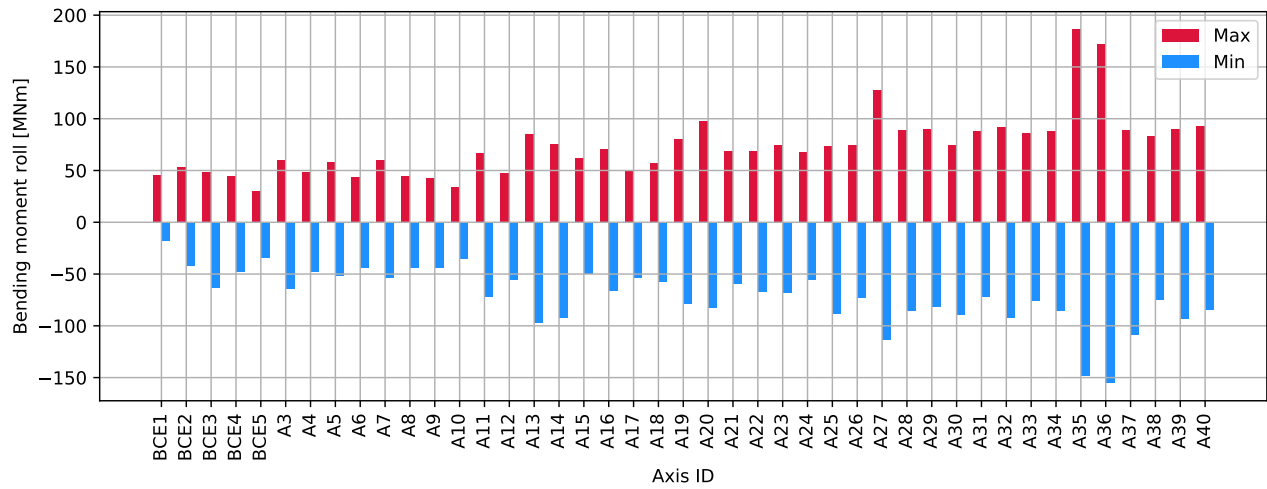


Figure 4.435: DH A35-A36 0deg - columns top : Bending moment roll [MNm]

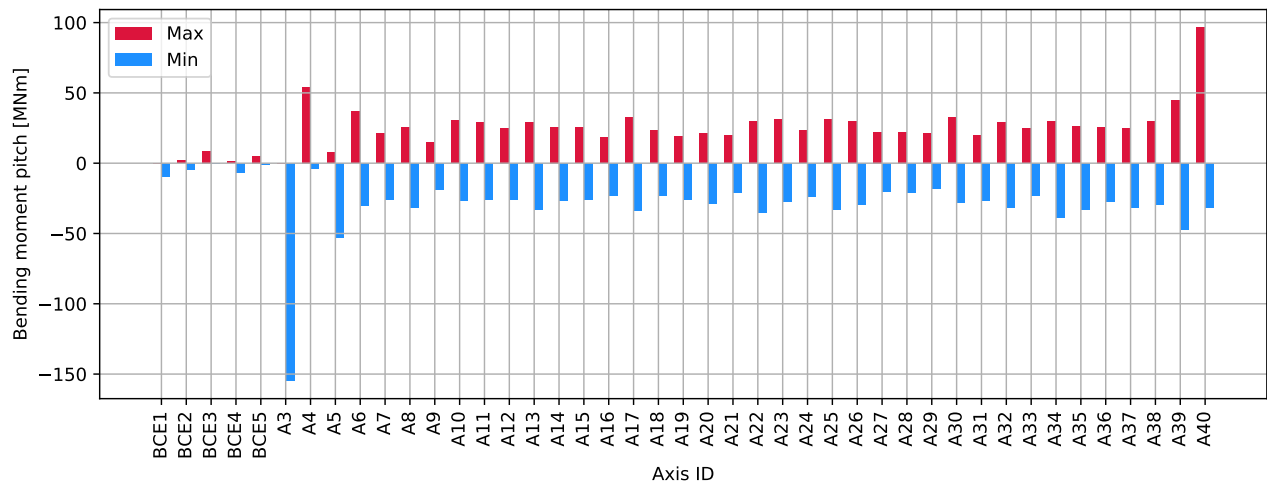


Figure 4.436: DH A35-A36 0deg - columns top : Bending moment pitch [MNm]

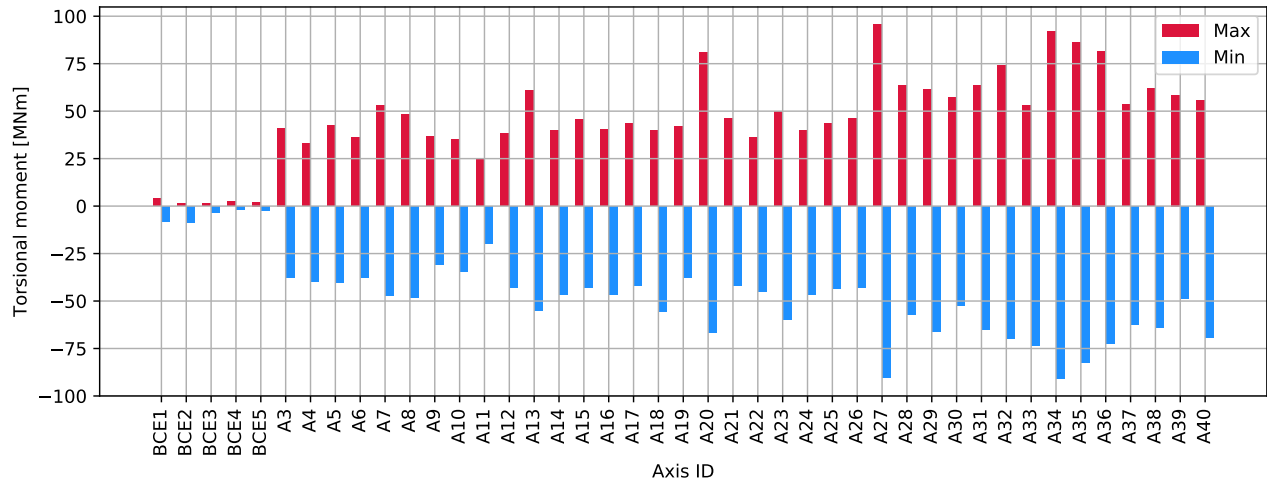


Figure 4.437: DH A35-A36 0deg - columns top : Torsional moment [MNm]

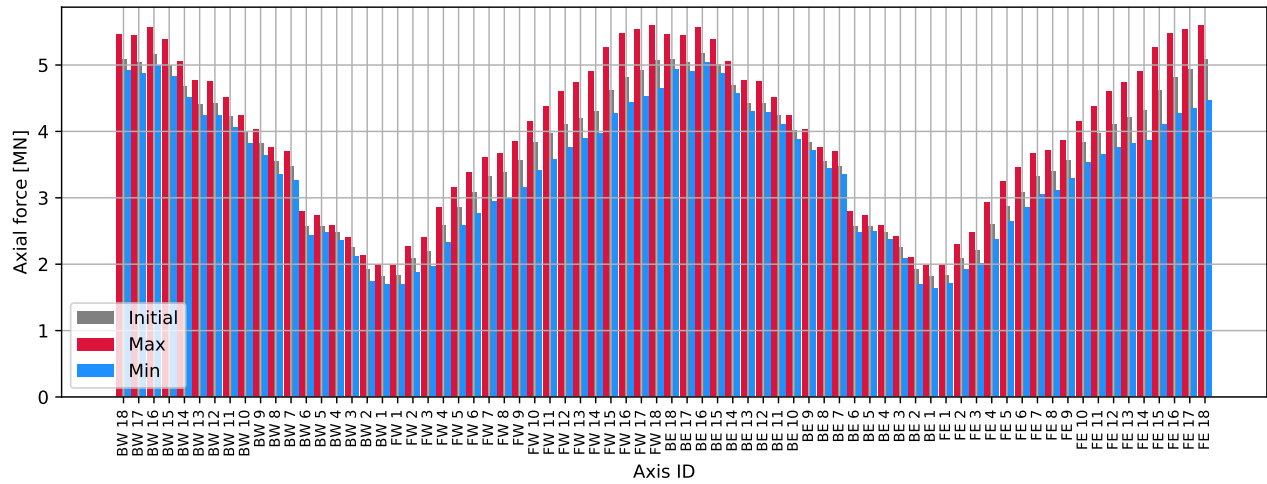


Figure 4.438: DH A35-A36 0deg - cables : Axial force [MN]

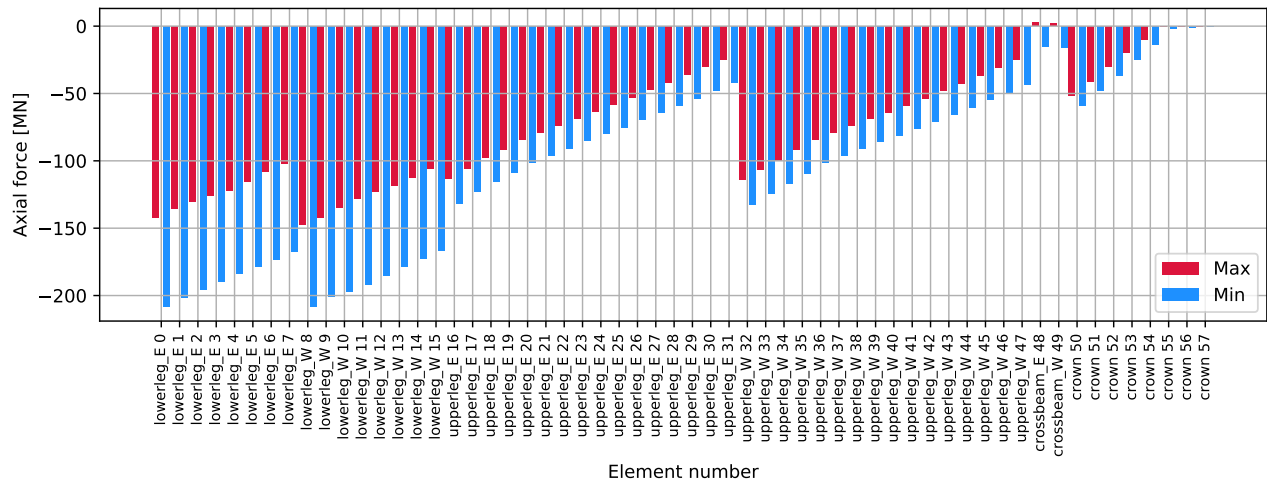


Figure 4.439: DH A35-A36 0deg - tower: Axial force [MN]

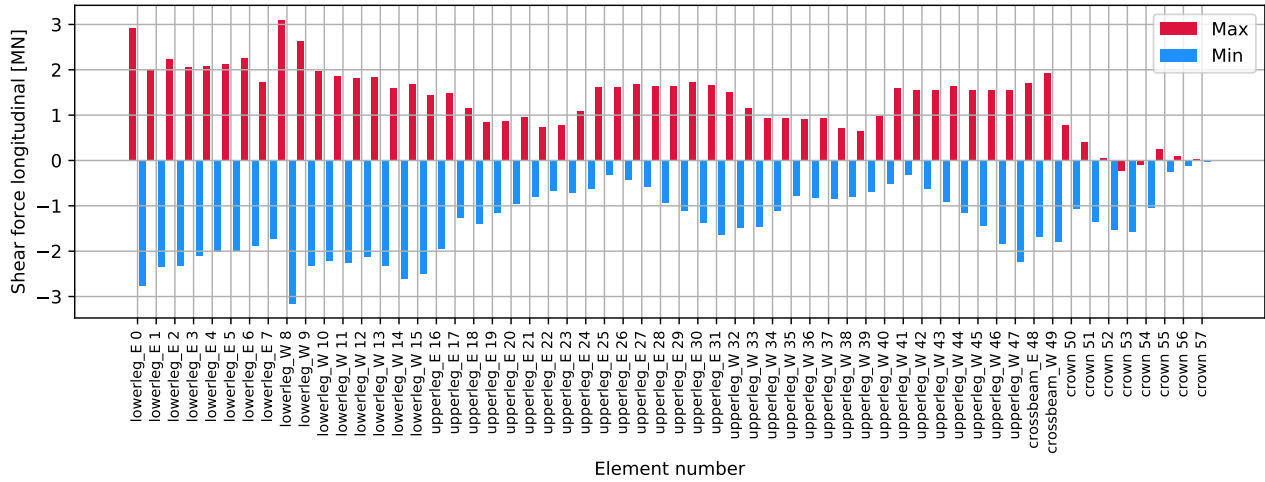


Figure 4.440: DH A35-A36 0deg - tower: Shear force longitudinal [MN]

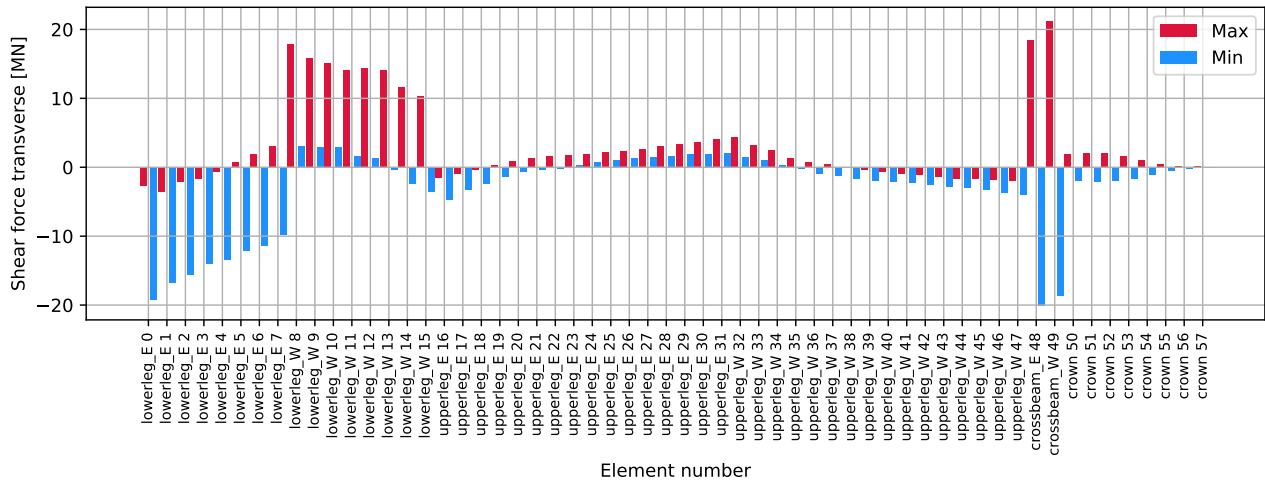


Figure 4.441: DH A35-A36 0deg - tower: Shear force transverse [MN]

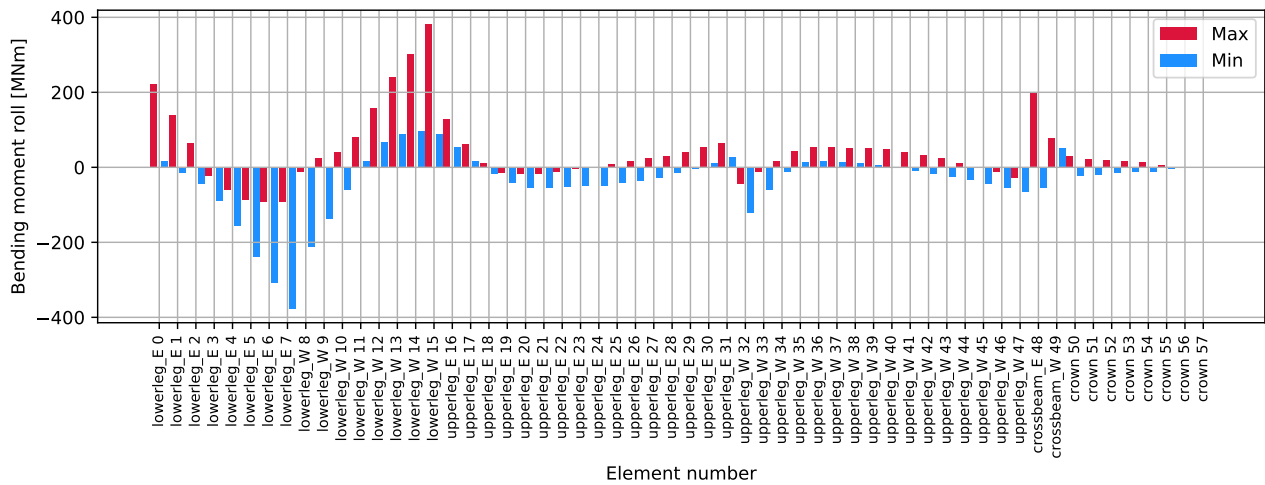


Figure 4.442: DH A35-A36 0deg - tower: Bending moment roll [MNm]

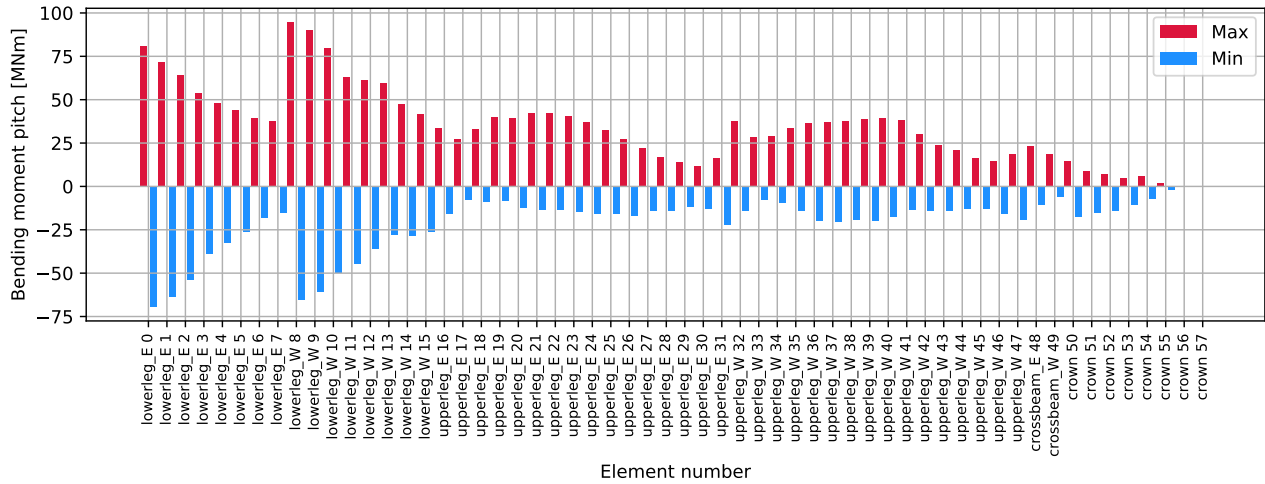


Figure 4.443: DH A35-A36 0deg - tower: Bending moment pitch [MNm]

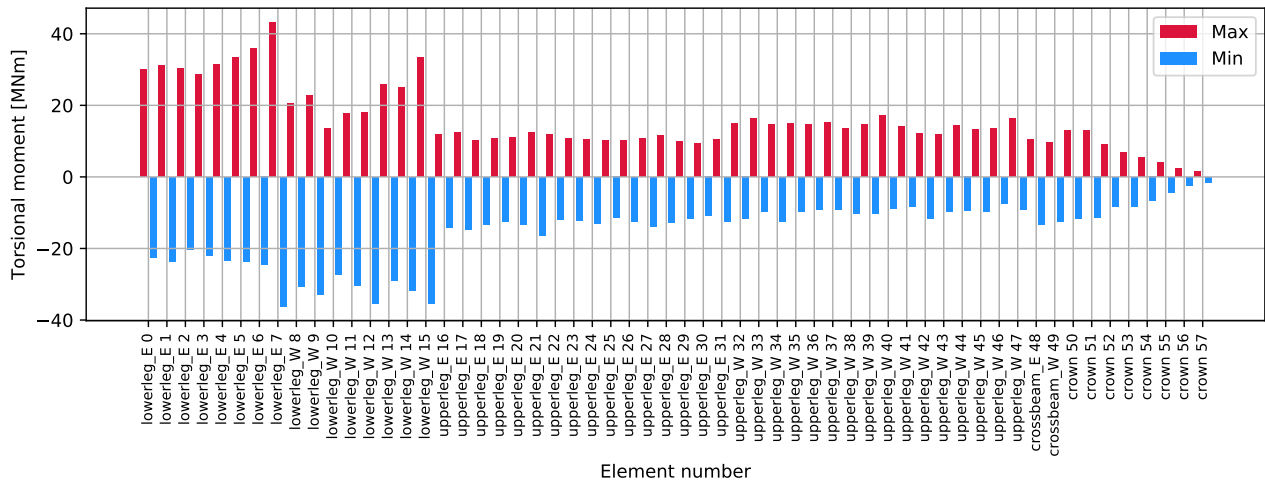


Figure 4.444: DH A35-A36 0deg - tower: Torsional moment [MNm]

4.10.3 Time series

Note : Time series are filtered using a Savitzky-Golay filter for increased readability of the time history plots. Hence, maximum values that occur due to a rapid vibration are not shown in the plots. For maximum values, refer to the tabulated data.

All elements are numbered from South to North, bottom to top

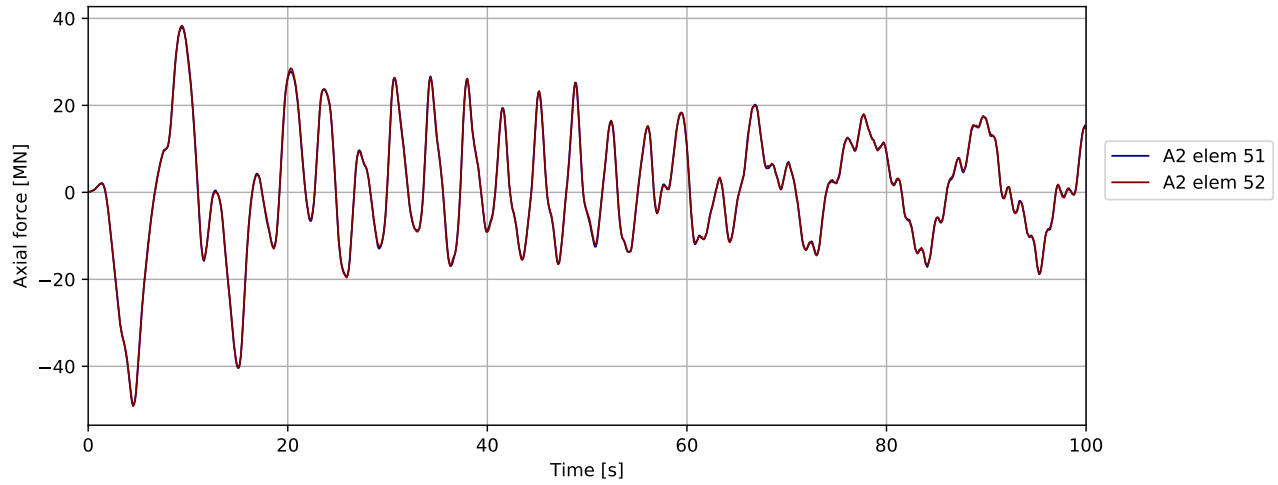


Figure 4.445: DH A35-A36 0deg - bridgegirder @ pylon: Axial force [MN]

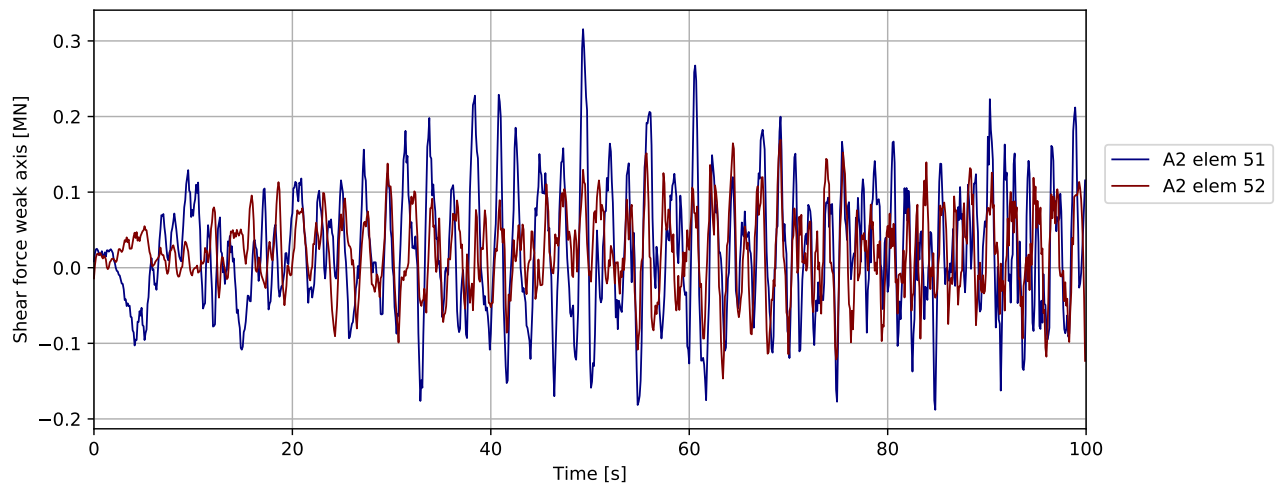


Figure 4.446: DH A35-A36 0deg - bridgegirder @ pylon: Shear force weak axis [MN]

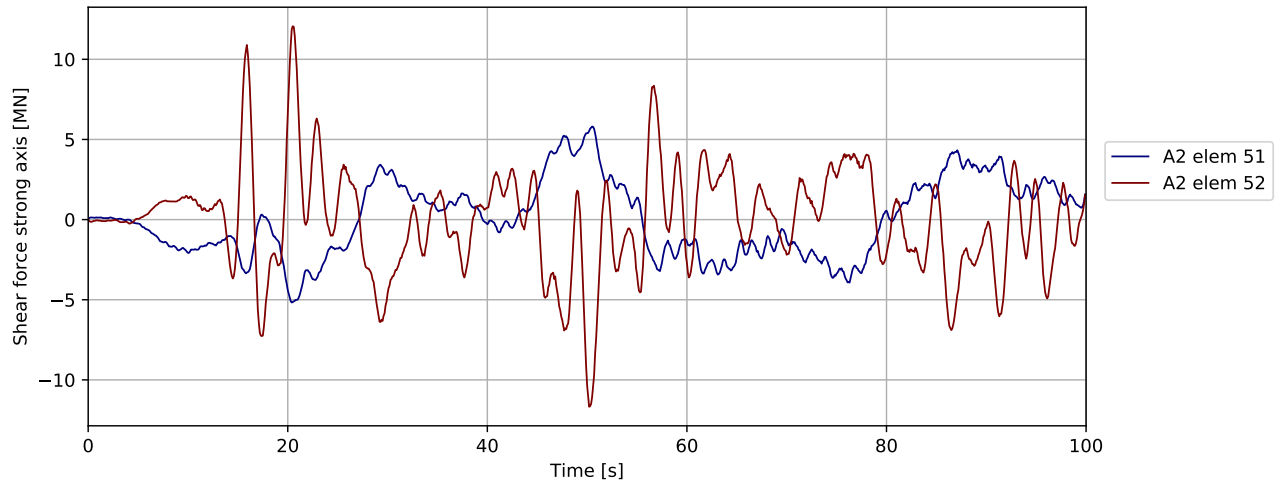


Figure 4.447: DH A35-A36 0deg - bridgegirder @ pylon: Shear force strong axis [MN]

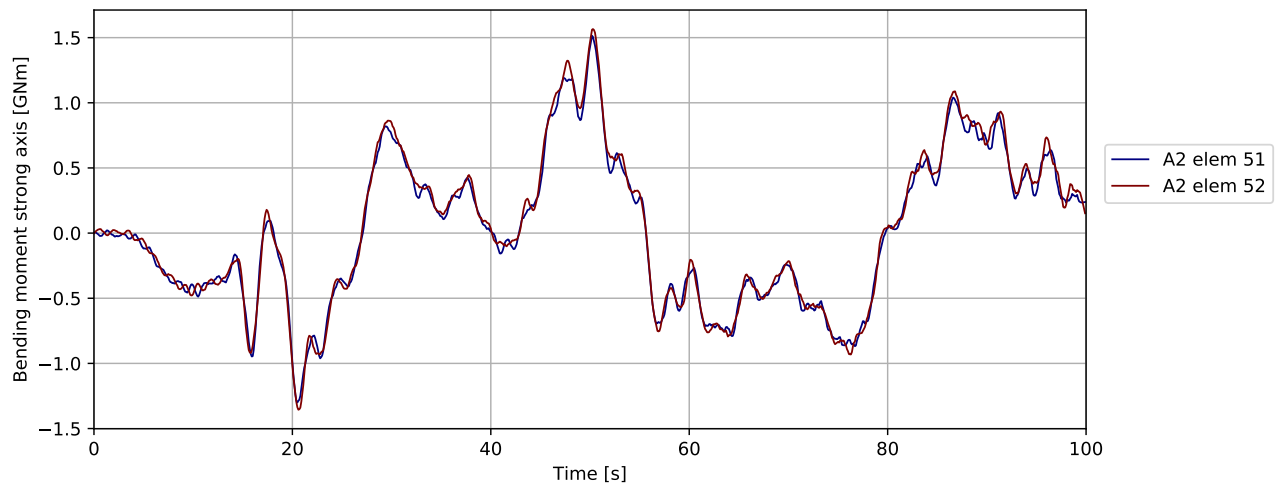


Figure 4.448: DH A35-A36 0deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

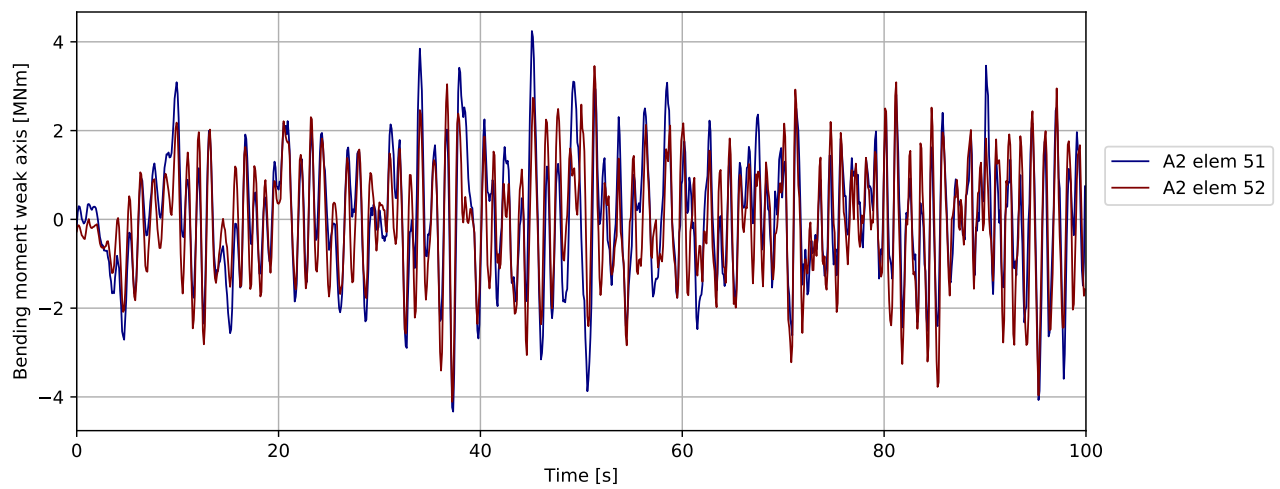


Figure 4.449: DH A35-A36 0deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

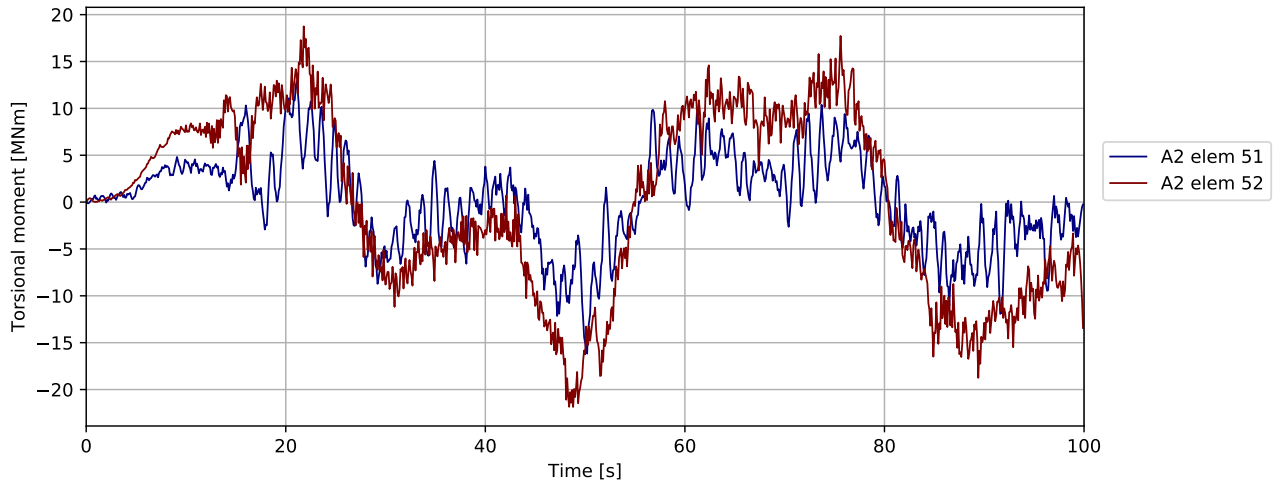


Figure 4.450: DH A35-A36 0deg - bridgegirder @ pylon: Torsional moment [MNm]

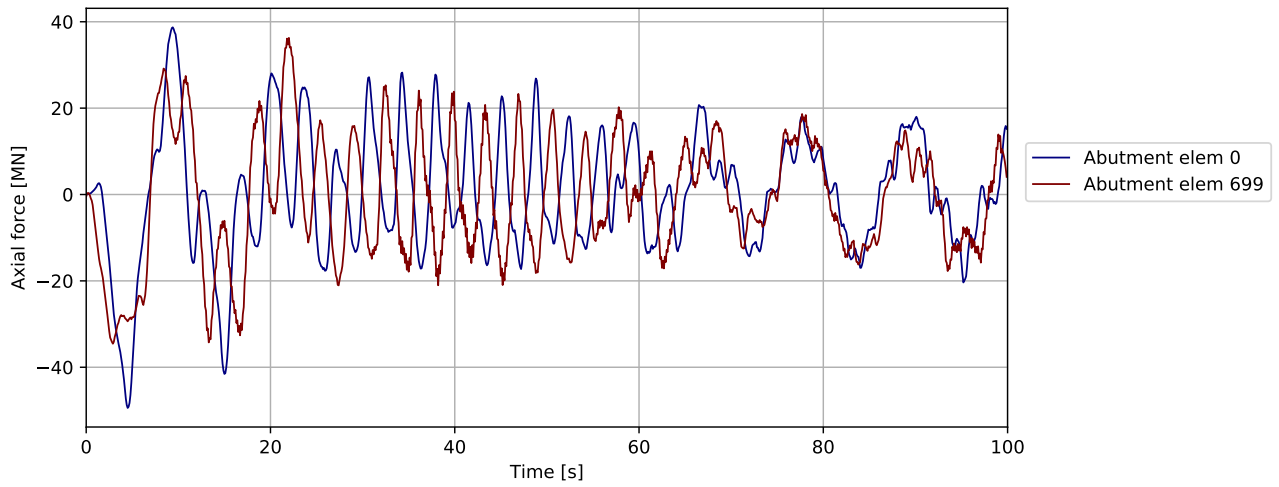


Figure 4.451: DH A35-A36 0deg - bridgegirder @abutments: Axial force [MN]

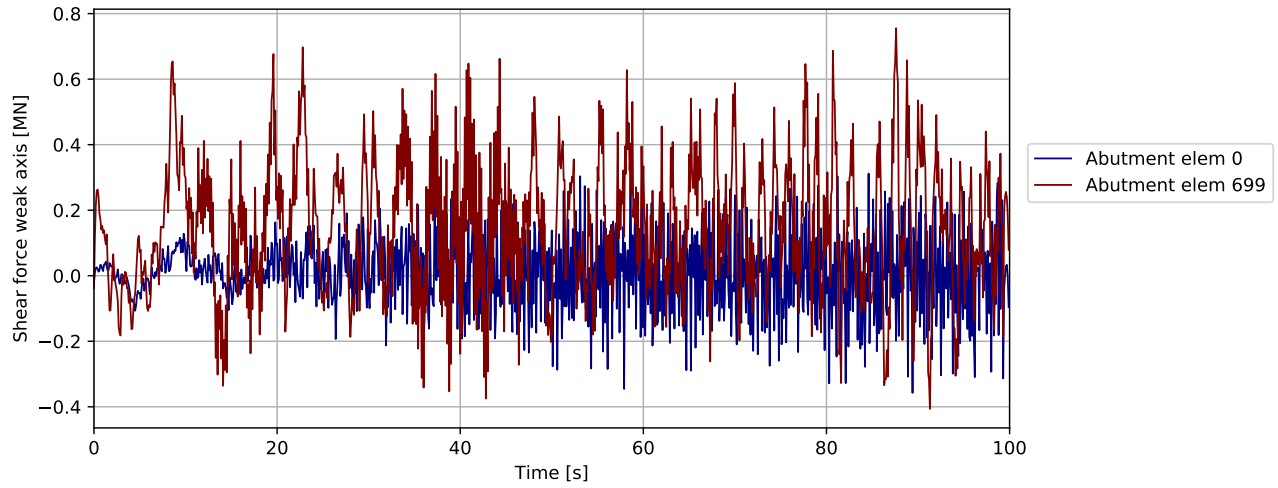


Figure 4.452: DH A35-A36 0deg - bridgegirder @abutments: Shear force weak axis [MN]

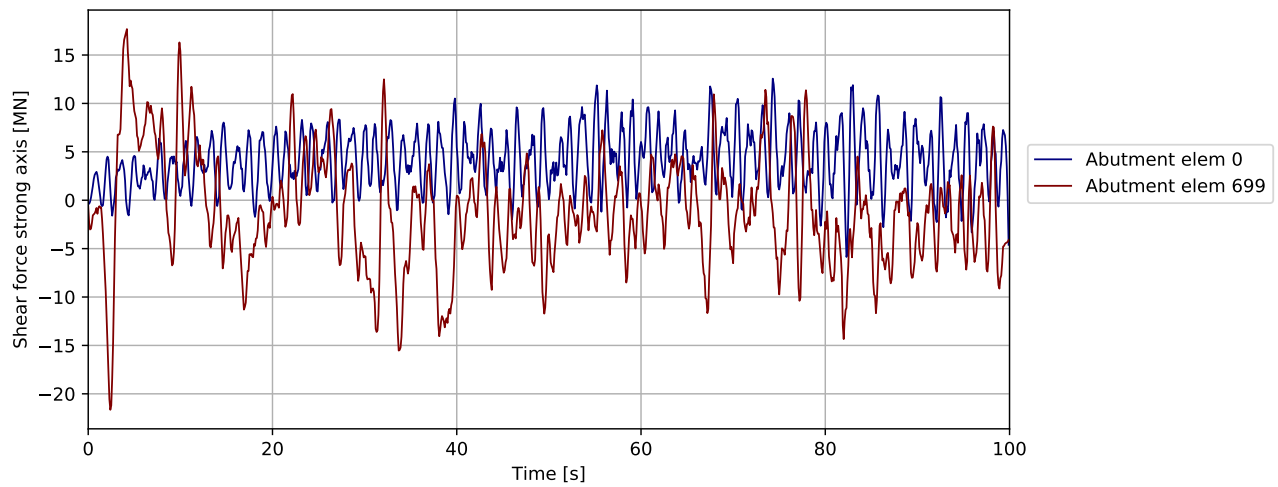


Figure 4.453: DH A35-A36 0deg - bridgegirder @abutments: Shear force strong axis [MN]

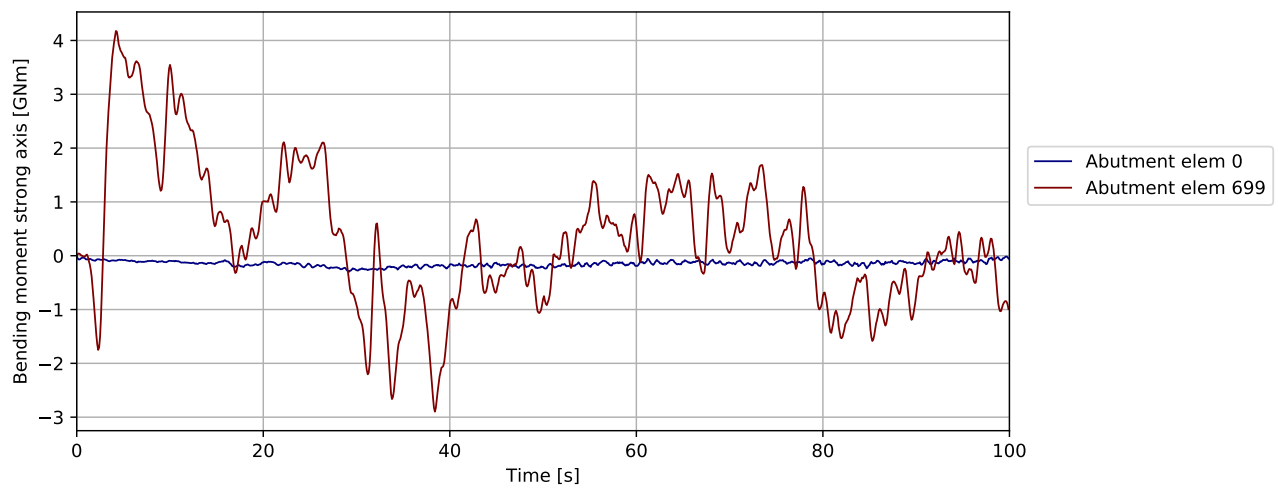


Figure 4.454: DH A35-A36 0deg - bridgegirder @abutments: Bending moment strong axis [GNm]

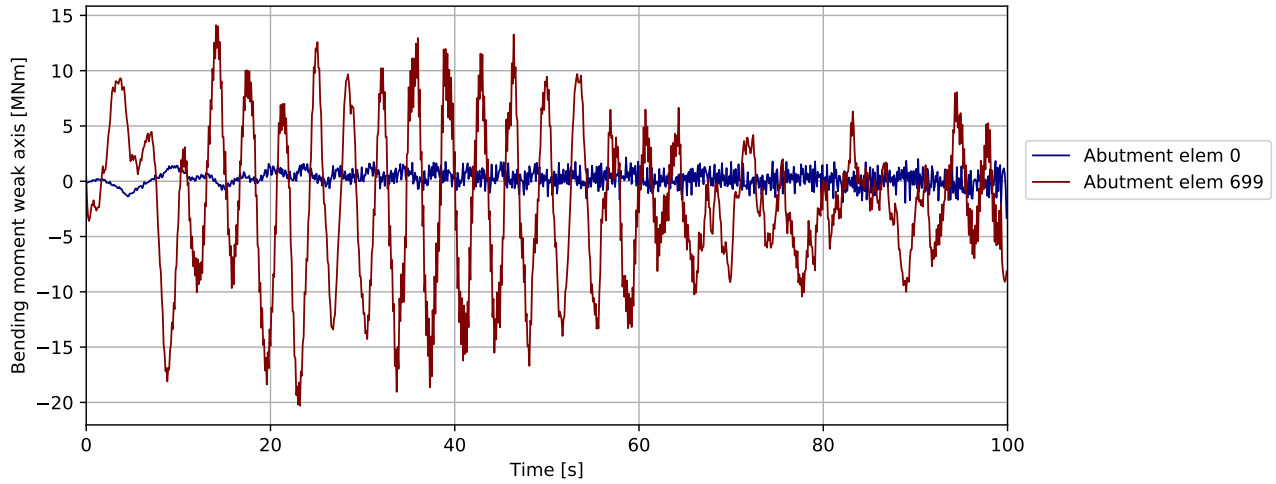


Figure 4.455: DH A35-A36 0deg - bridgegirder @abutments: Bending moment weak axis [MNm]

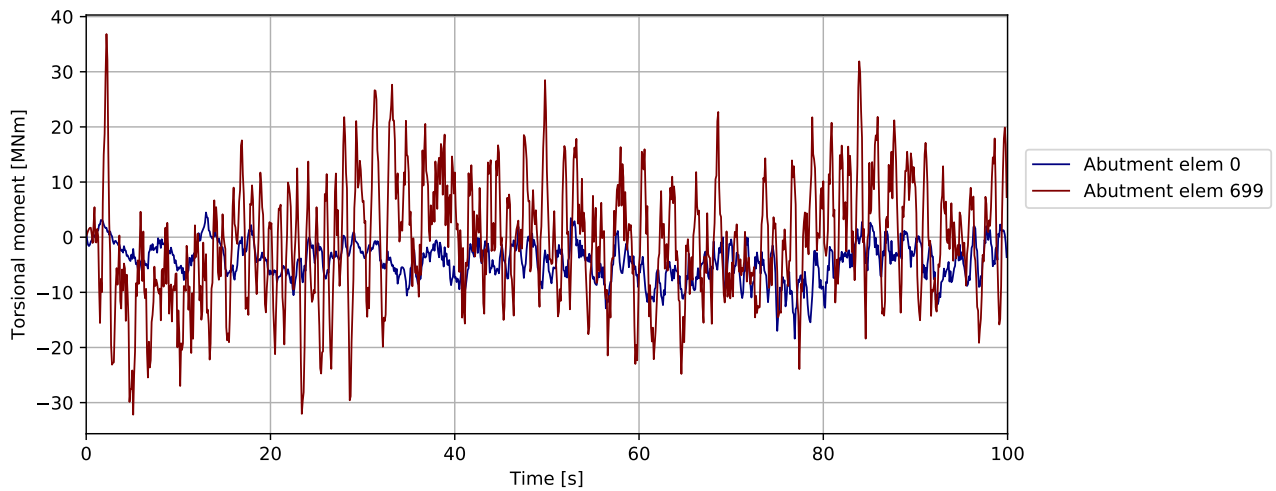


Figure 4.456: DH A35-A36 0deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

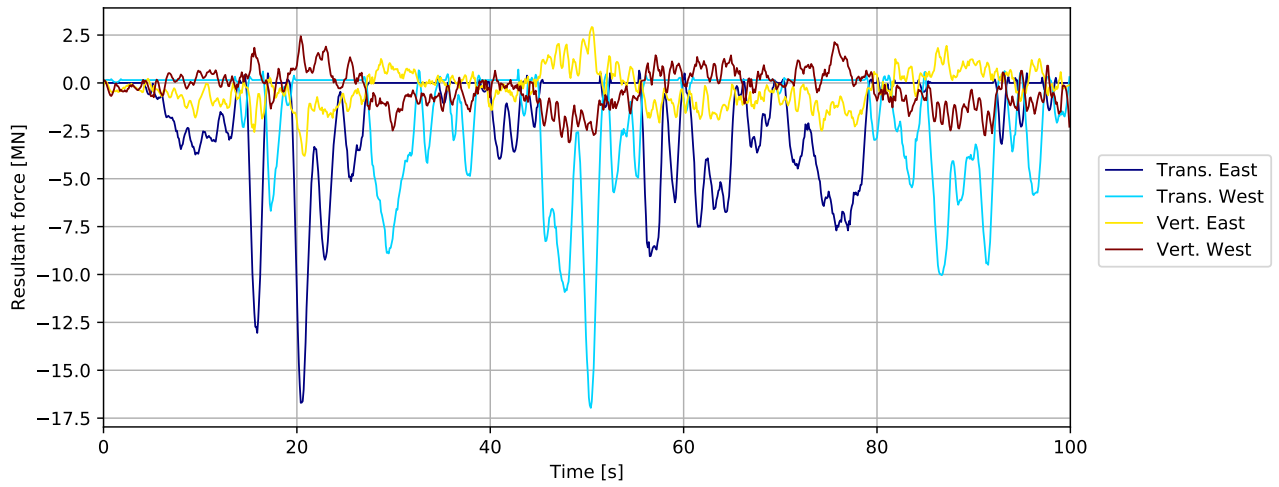


Figure 4.457: DH A35-A36 0deg - bridgegirder supports in tower: Resultant force [MN]

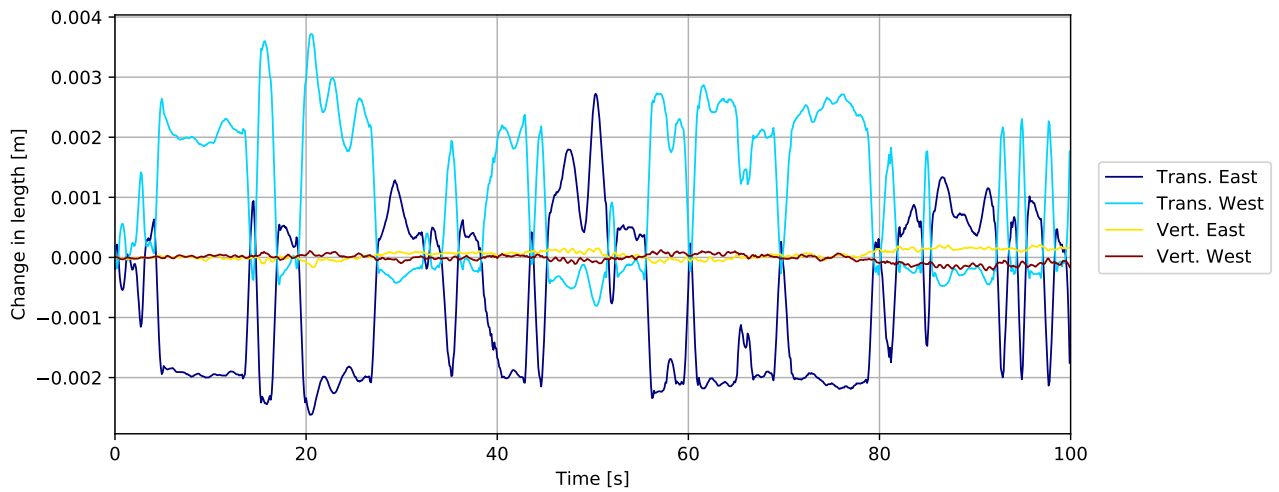


Figure 4.458: DH A35-A36 0deg - bridgegirder supports in tower: Change in length [m]

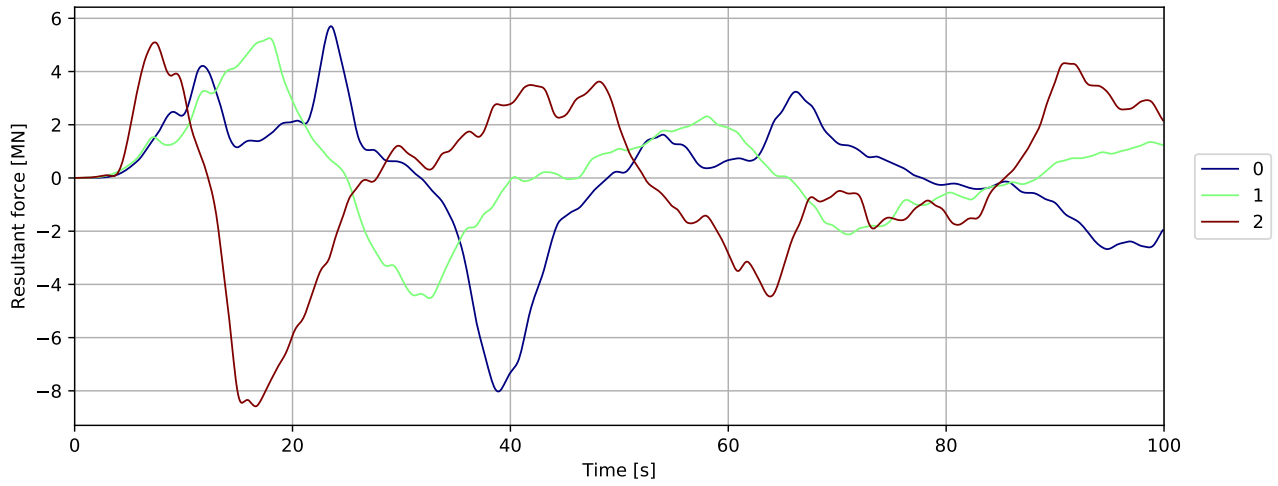


Figure 4.459: Mooring force

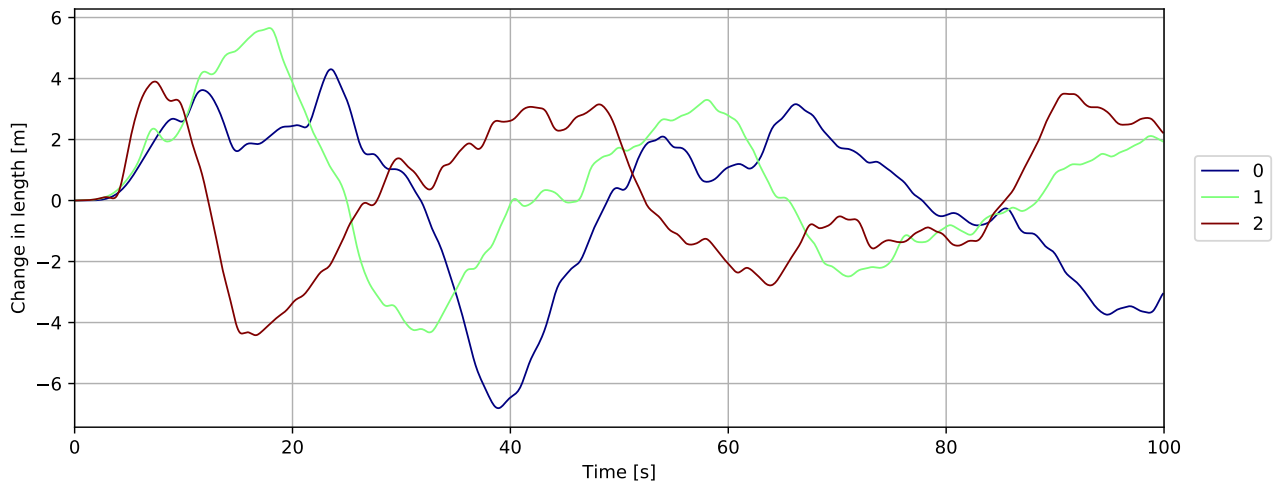


Figure 4.460: Mooring displacement

4.11 Deck house A39-A40 0deg

4.11.1 Overall response

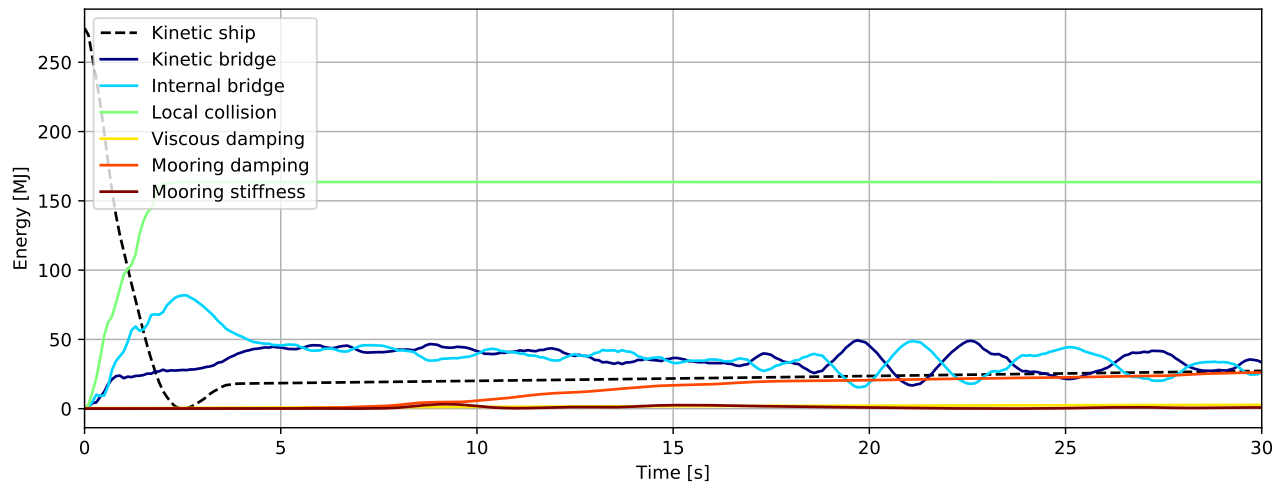


Figure 4.461: Energy [MJ] - initial phase

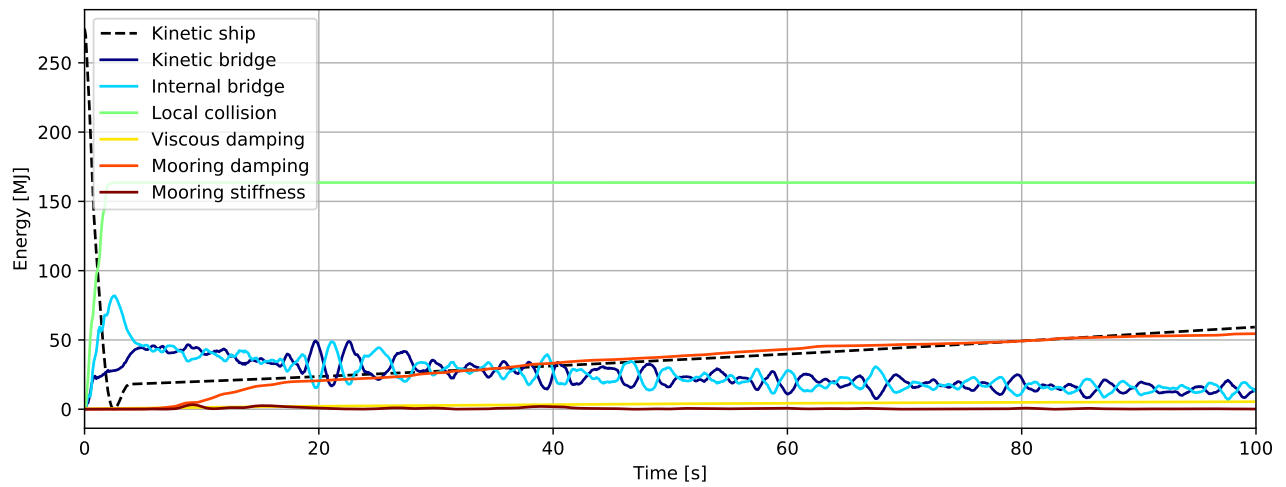


Figure 4.462: Energy [MJ]

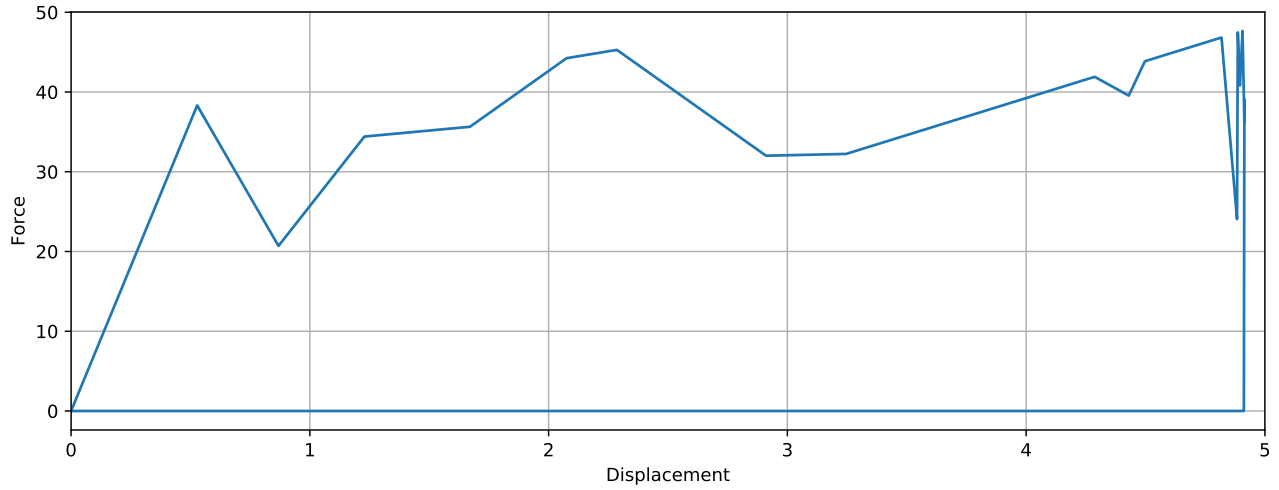


Figure 4.463: Simulated local collision force-displacement

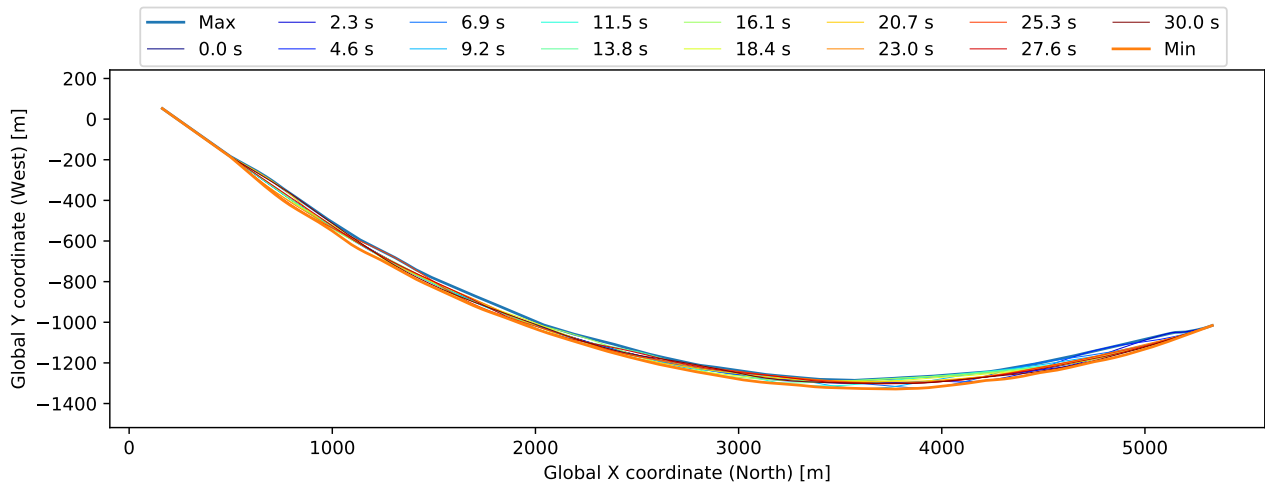


Figure 4.464: Bridgegirder deflection (10x displacement scaling)

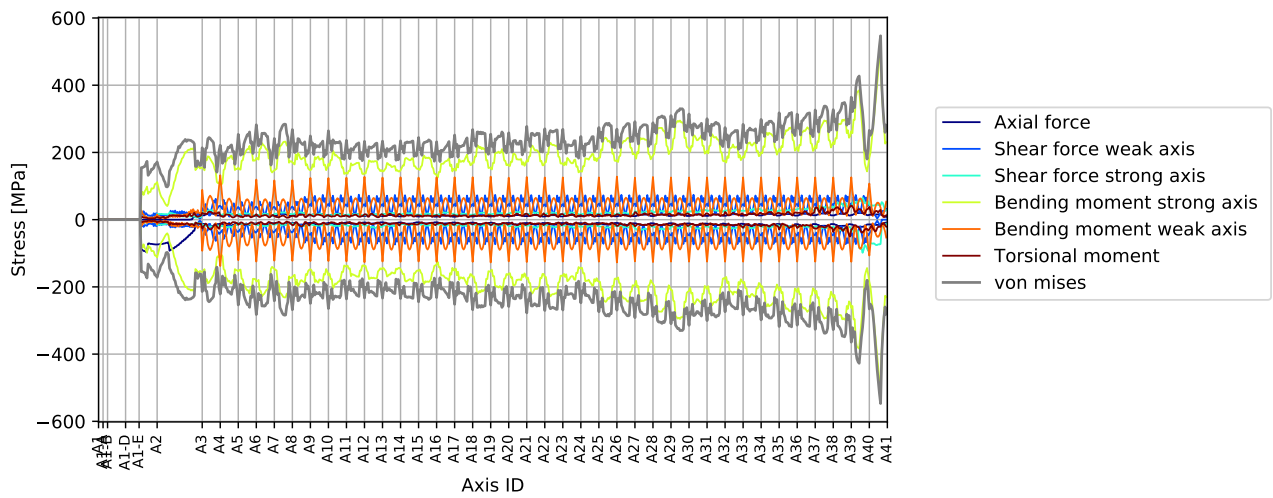


Figure 4.465: Stress envelope from all force components

4.11.2 Envelope plots

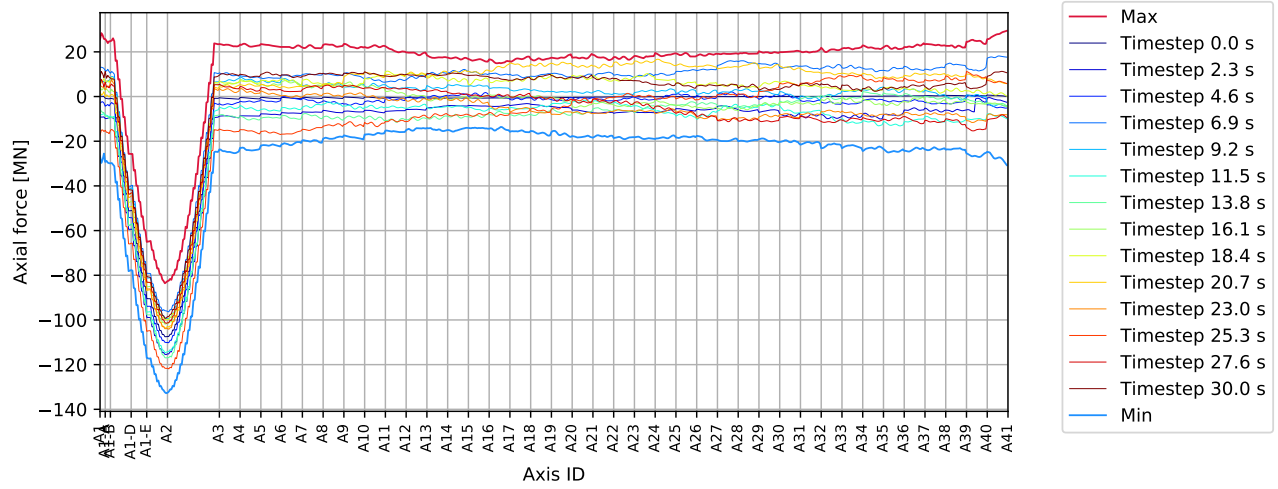


Figure 4.466: DH A39-A40 0deg - bridg girder : Axial force [MN]

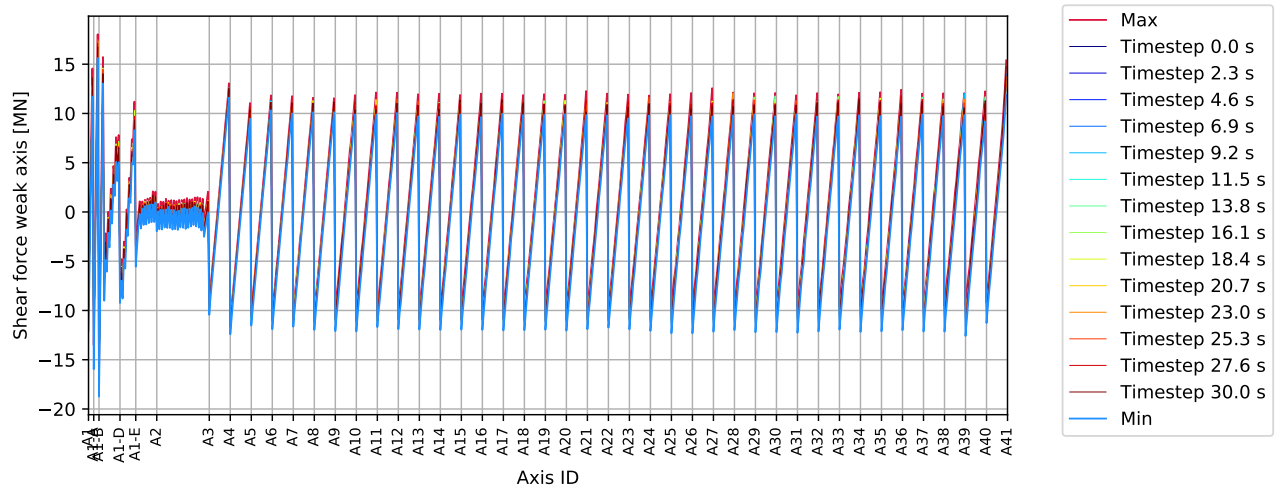


Figure 4.467: DH A39-A40 0deg - bridg girder : Shear force weak axis [MN]

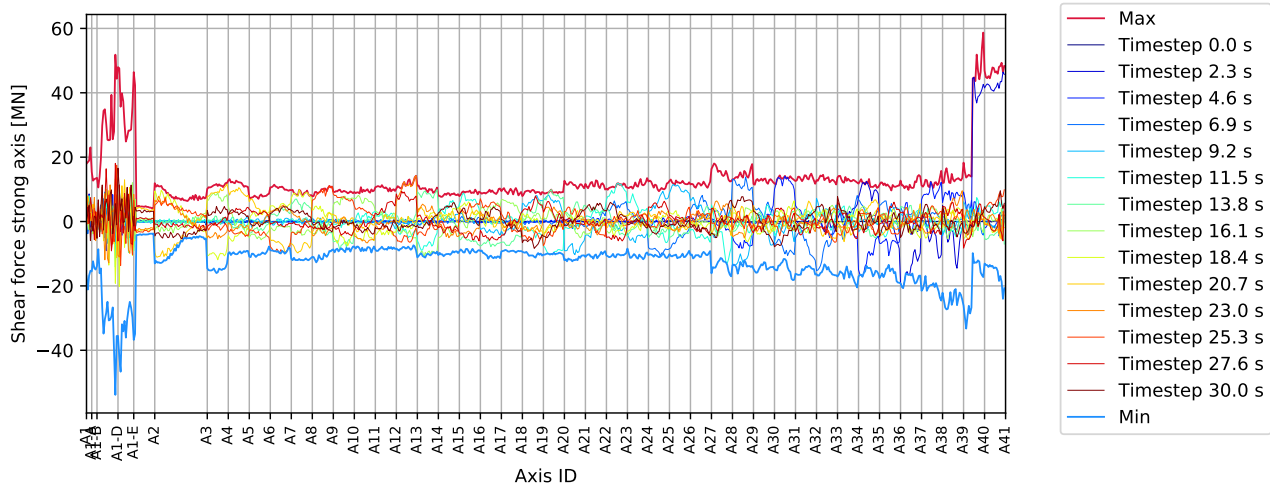


Figure 4.468: DH A39-A40 0deg - bridgegirder : Shear force strong axis [MN]

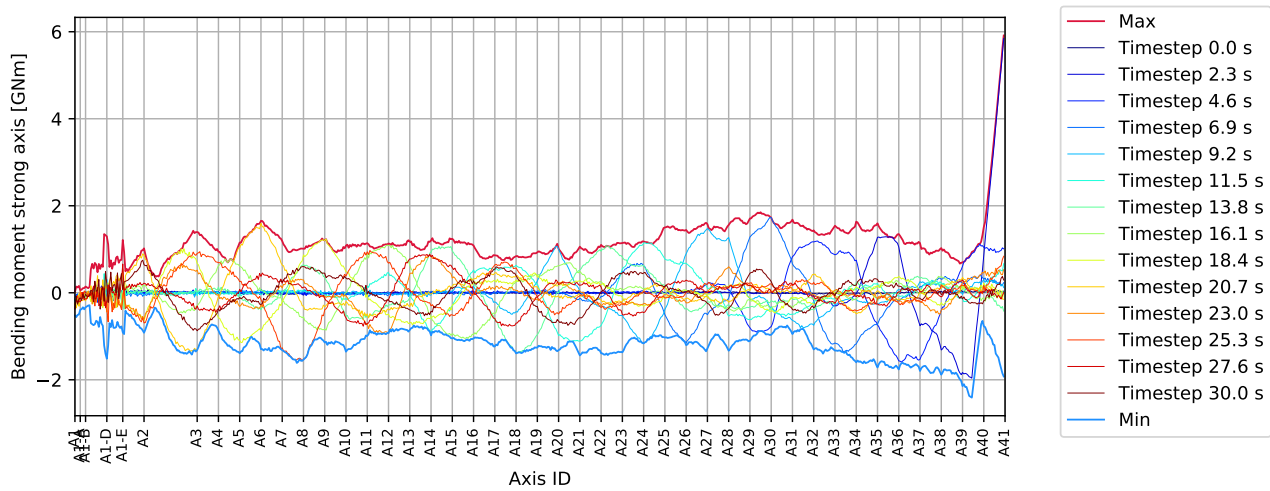


Figure 4.469: DH A39-A40 0deg - bridgegirder : Bending moment strong axis [GNm]

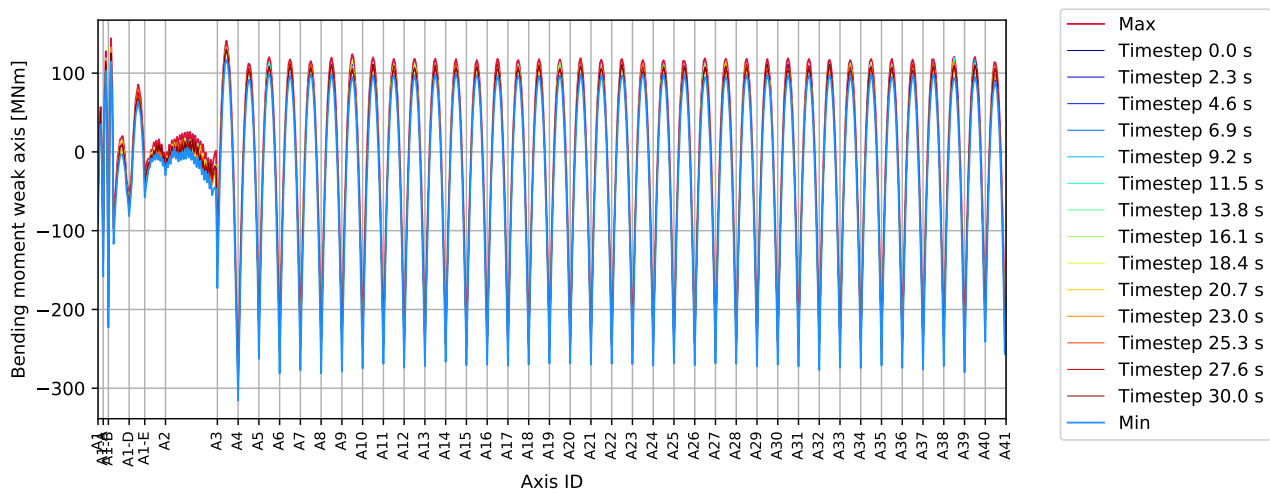


Figure 4.470: DH A39-A40 0deg - bridgegirder : Bending moment weak axis [MNm]

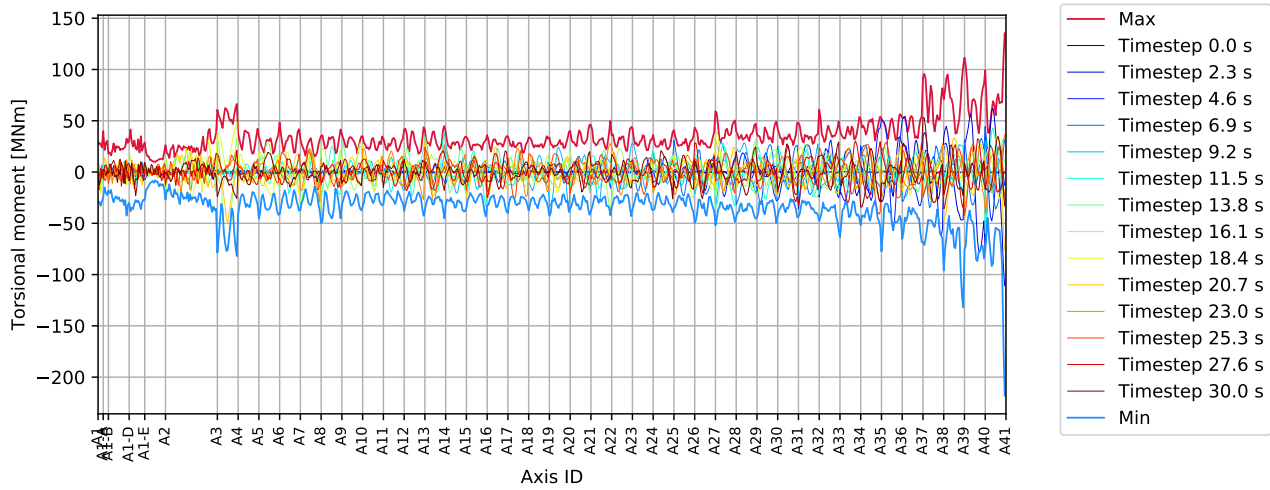


Figure 4.471: DH A39-A40 0deg - bridgegirder : Torsional moment [MNm]

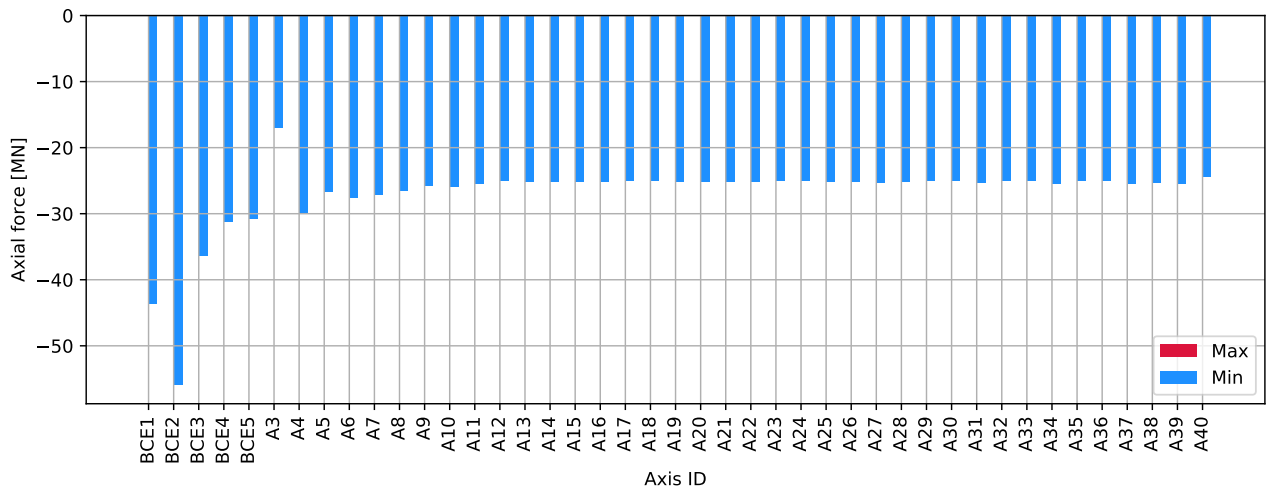


Figure 4.472: DH A39-A40 0deg - columns bottom : Axial force [MN]

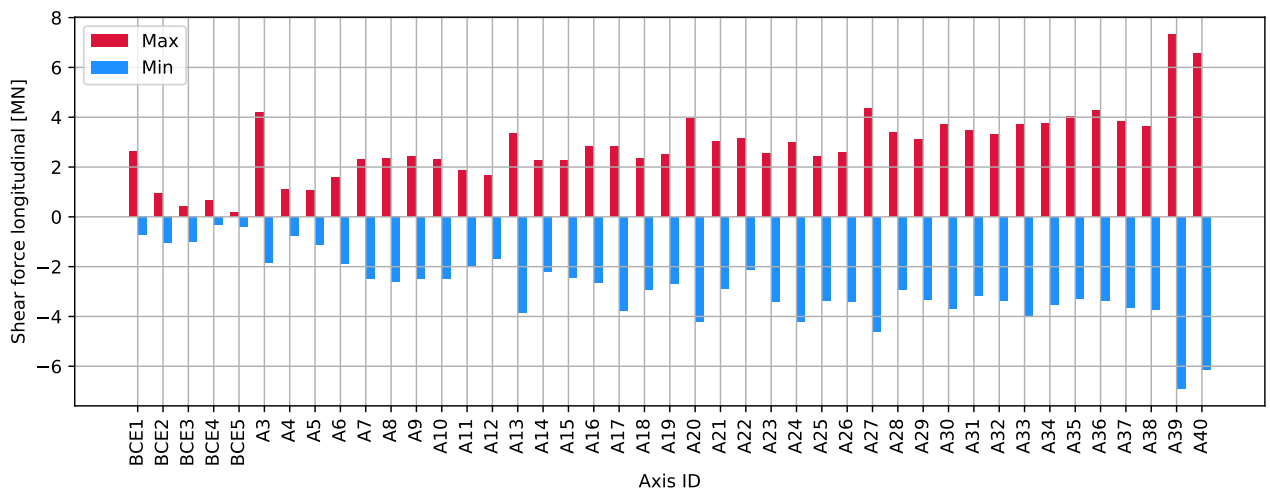


Figure 4.473: DH A39-A40 0deg - columns bottom : Shear force longitudinal [MN]

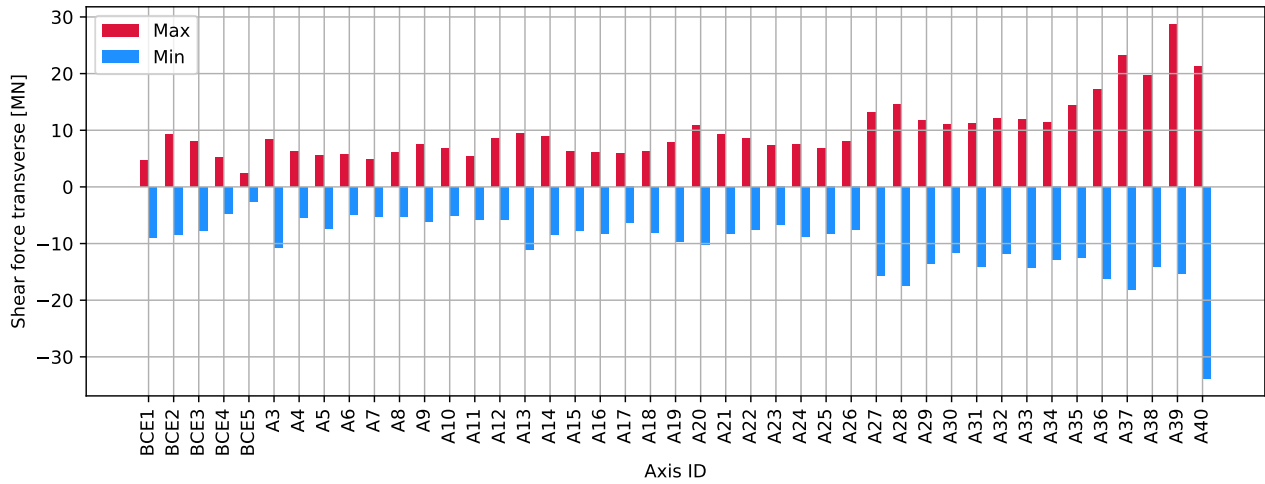


Figure 4.474: DH A39-A40 0deg - columns bottom : Shear force transverse [MN]

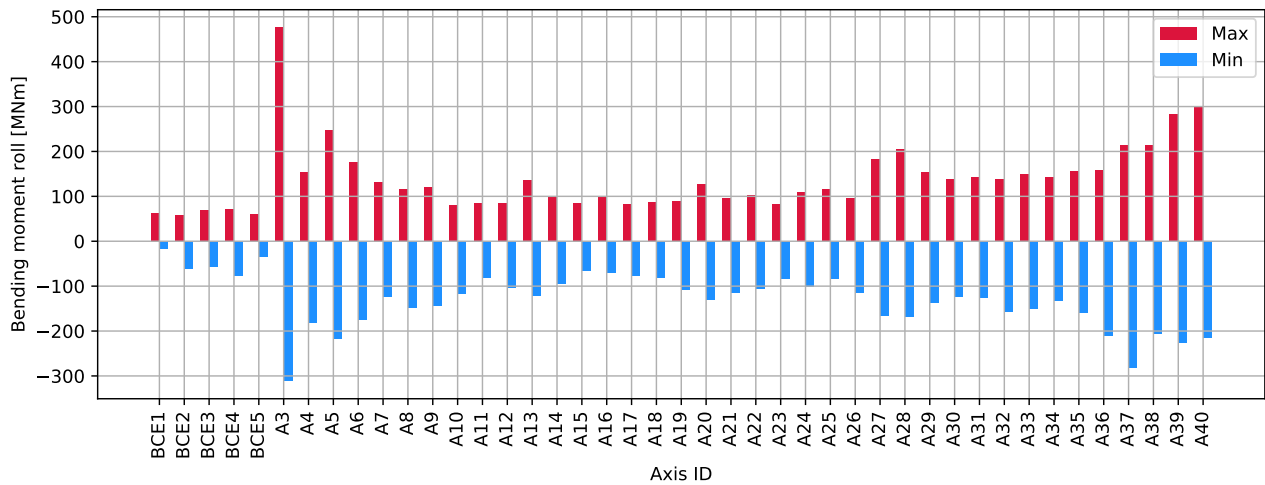


Figure 4.475: DH A39-A40 0deg - columns bottom : Bending moment roll [MNm]

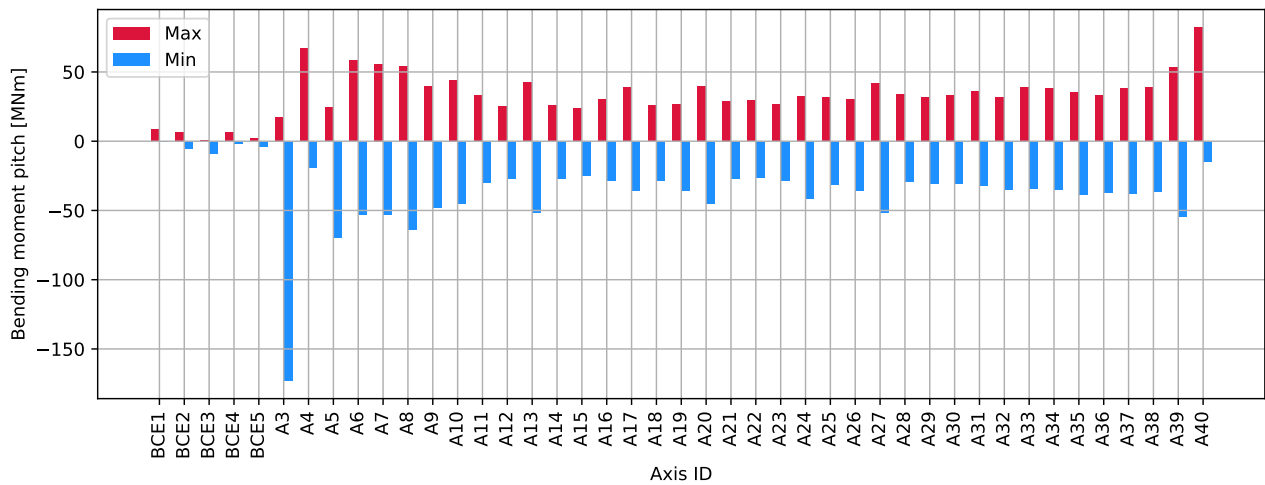


Figure 4.476: DH A39-A40 0deg - columns bottom : Bending moment pitch [MNm]

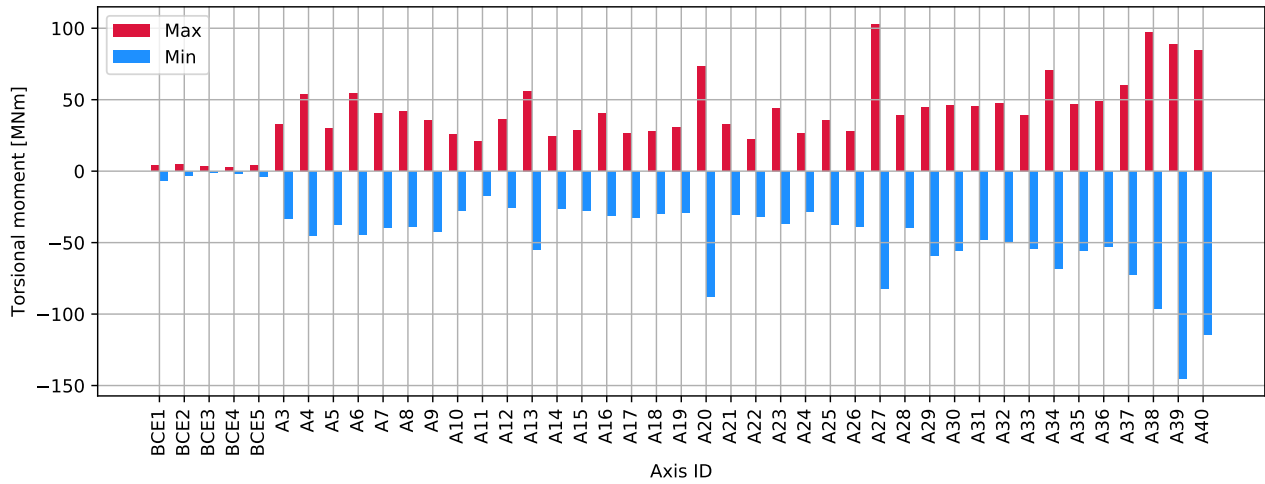


Figure 4.477: DH A39-A40 0deg - columns bottom : Torsional moment [MNm]

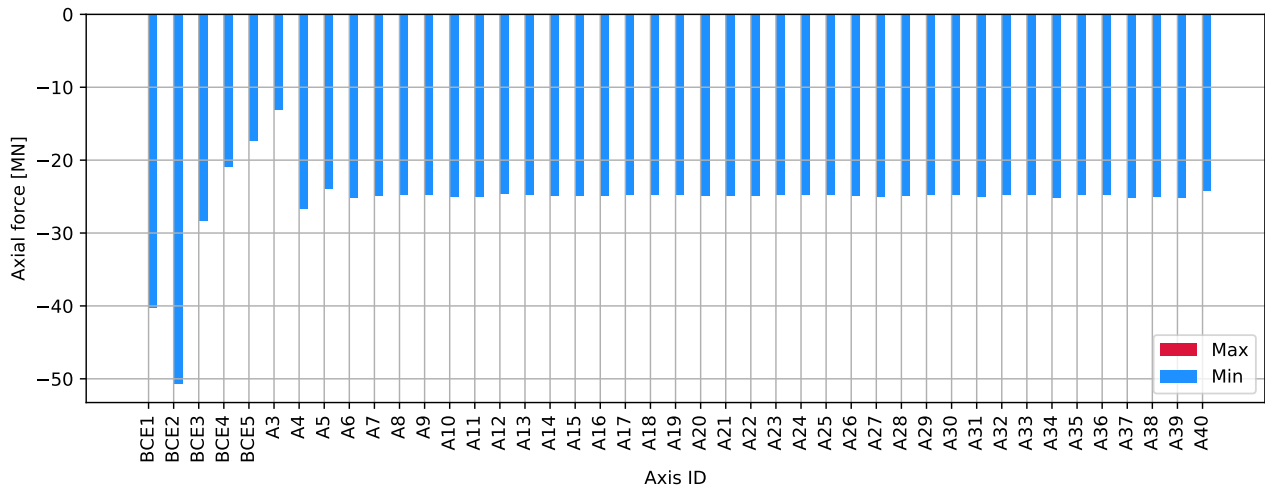


Figure 4.478: DH A39-A40 0deg - columns top : Axial force [MN]

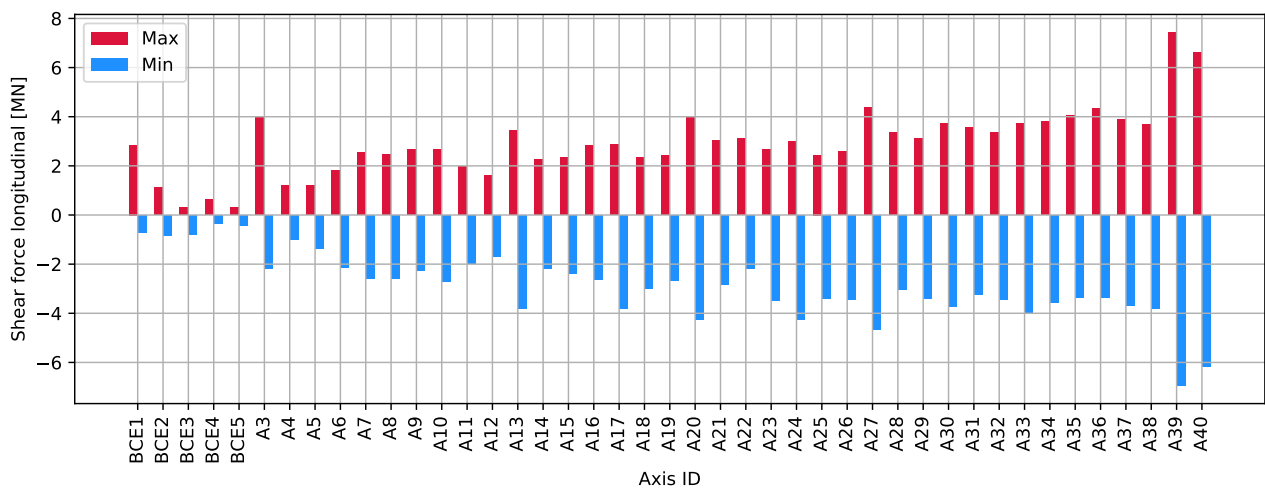


Figure 4.479: DH A39-A40 0deg - columns top : Shear force longitudinal [MN]

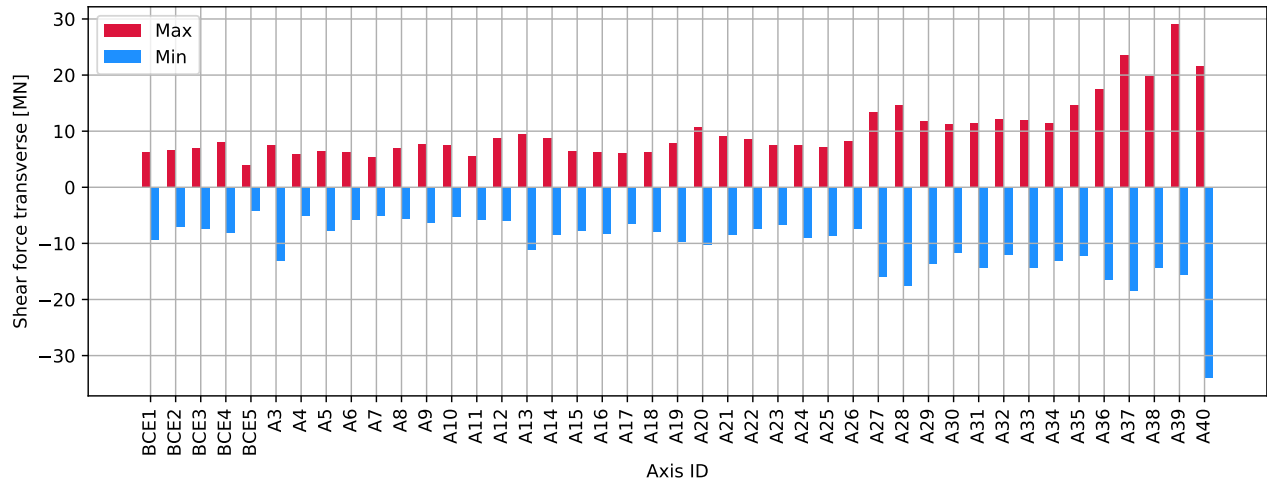


Figure 4.480: DH A39-A40 0deg - columns top : Shear force transverse [MN]

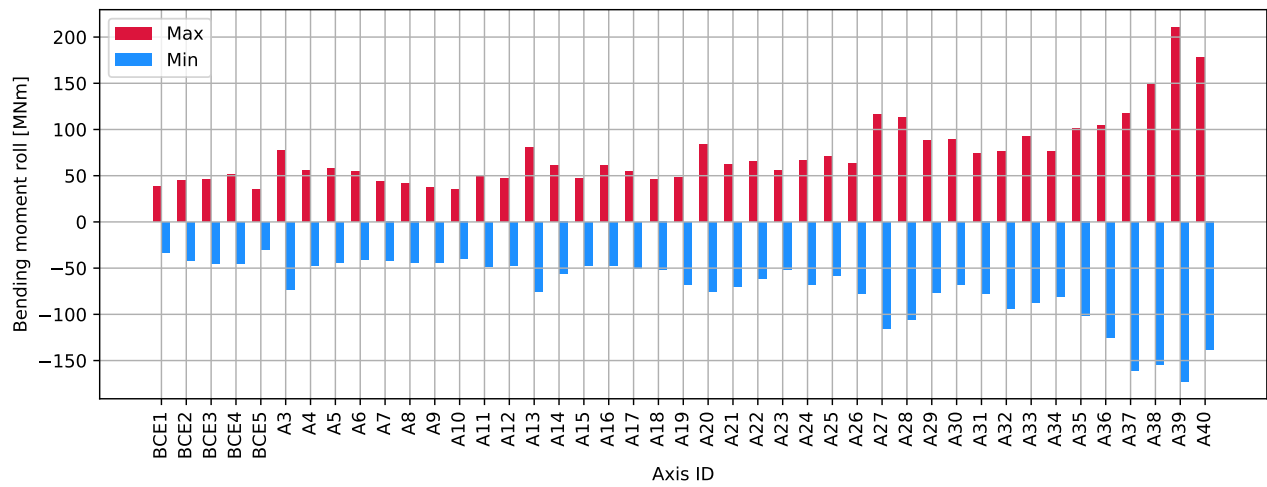


Figure 4.481: DH A39-A40 0deg - columns top : Bending moment roll [MNm]

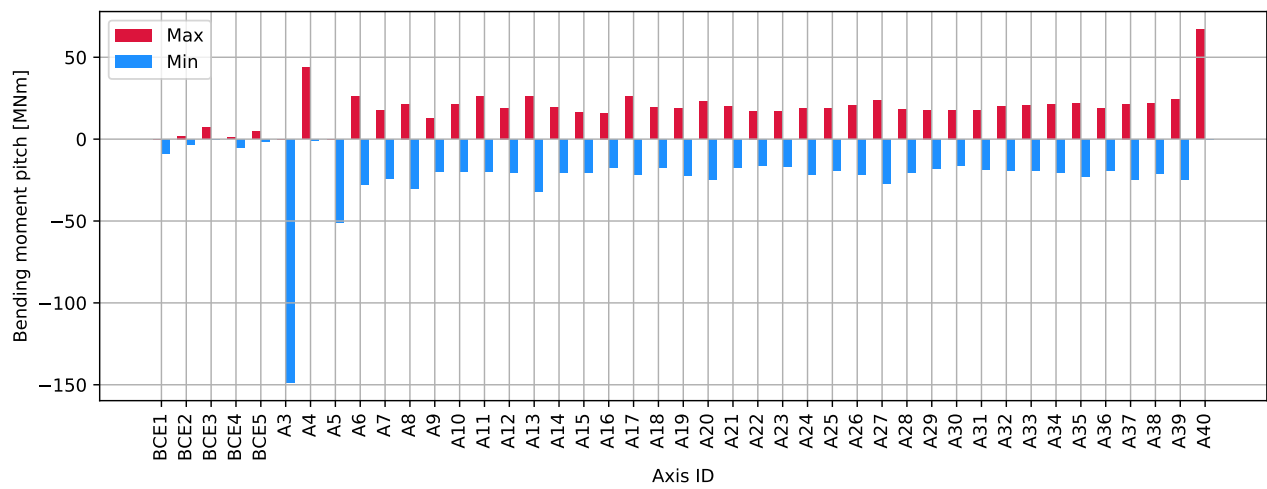


Figure 4.482: DH A39-A40 0deg - columns top : Bending moment pitch [MNm]

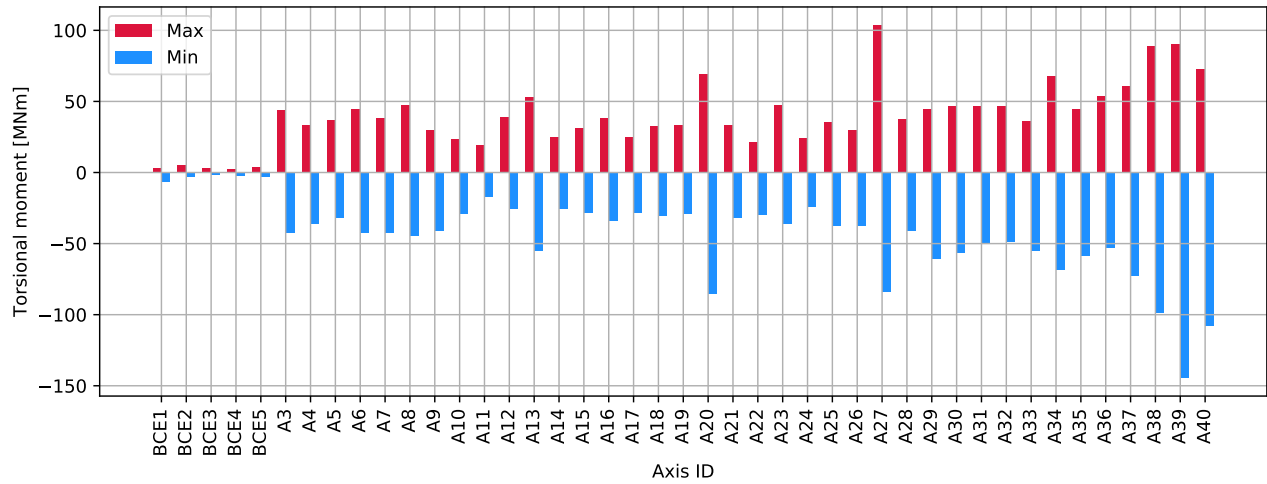


Figure 4.483: DH A39-A40 0deg - columns top : Torsional moment [MNm]

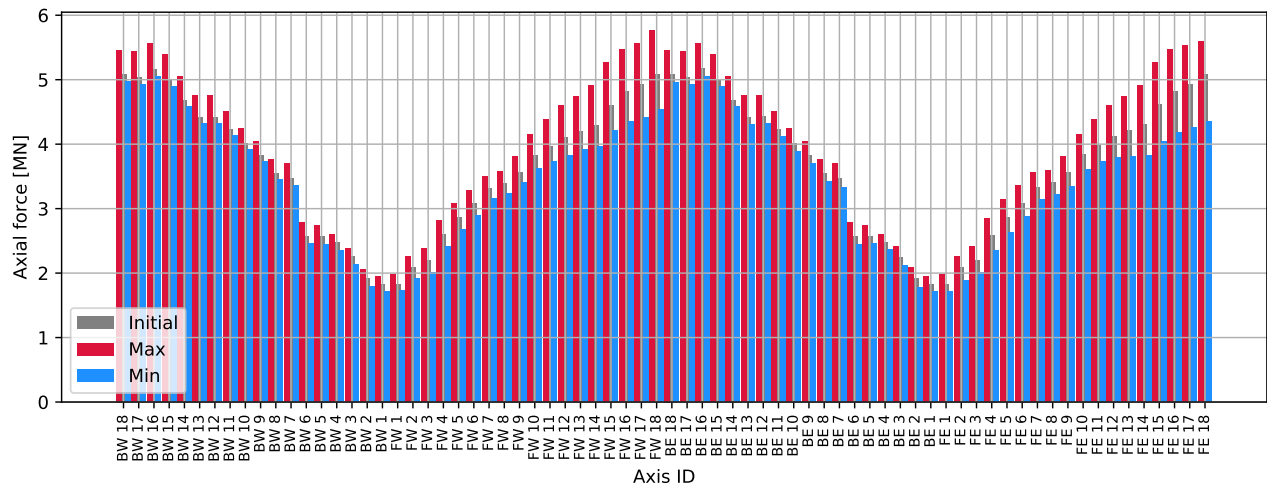


Figure 4.484: DH A39-A40 0deg - cables : Axial force [MN]

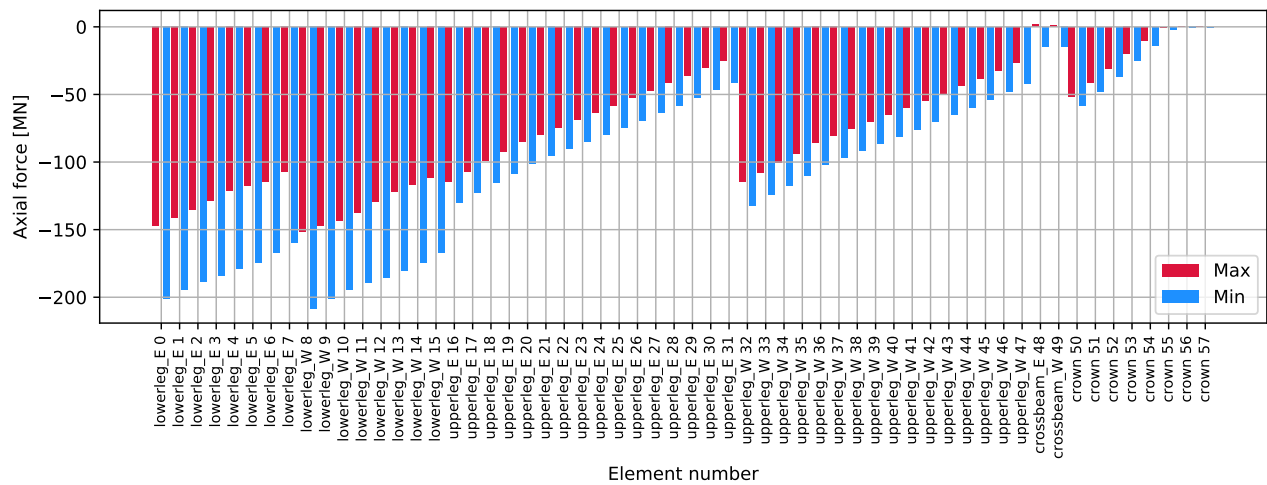


Figure 4.485: DH A39-A40 0deg - tower: Axial force [MN]

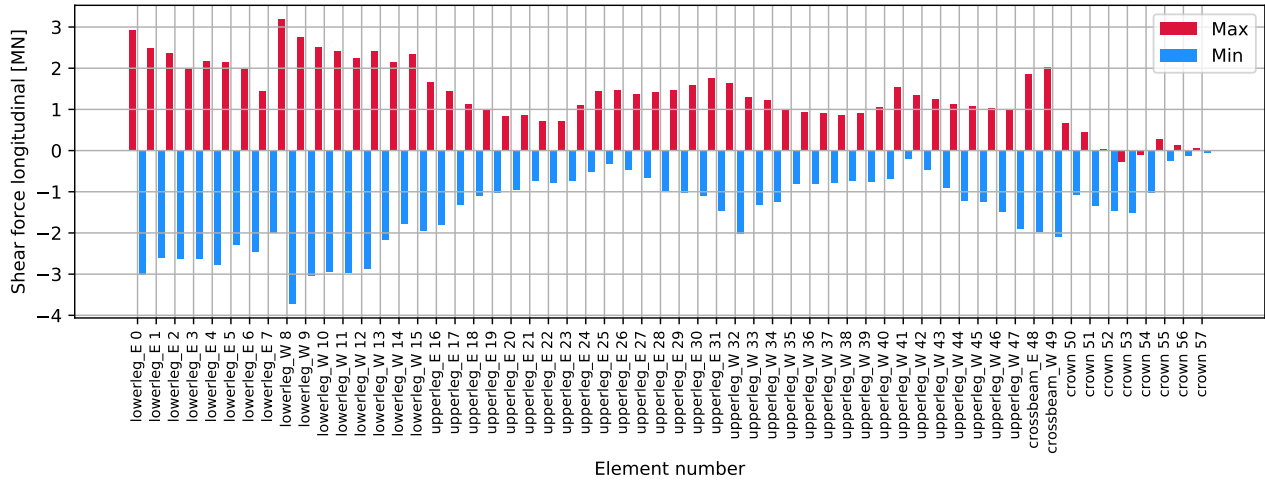


Figure 4.486: DH A39-A40 0deg - tower: Shear force longitudinal [MN]

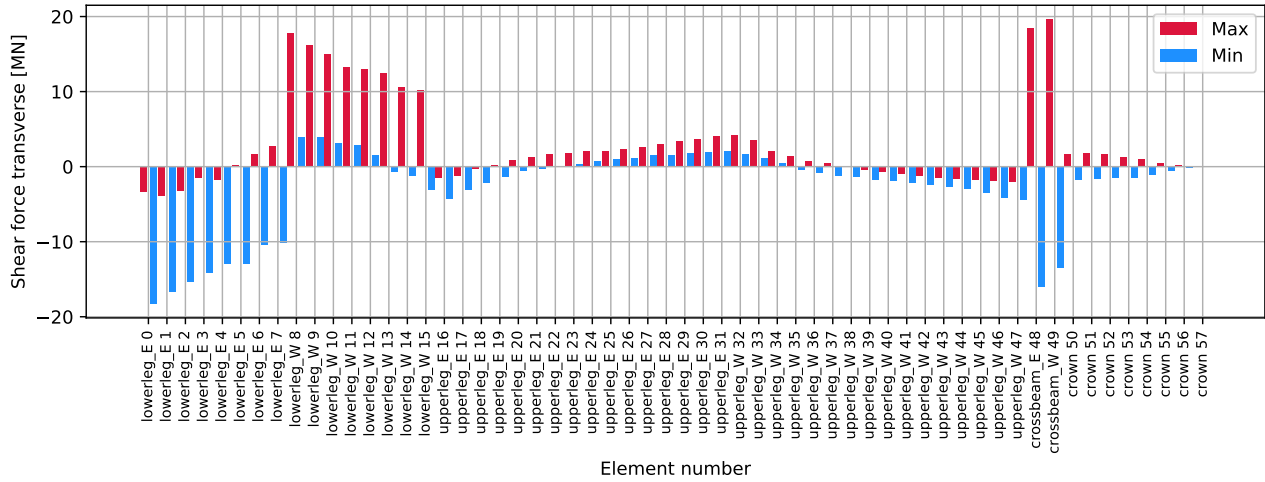


Figure 4.487: DH A39-A40 0deg - tower: Shear force transverse [MN]

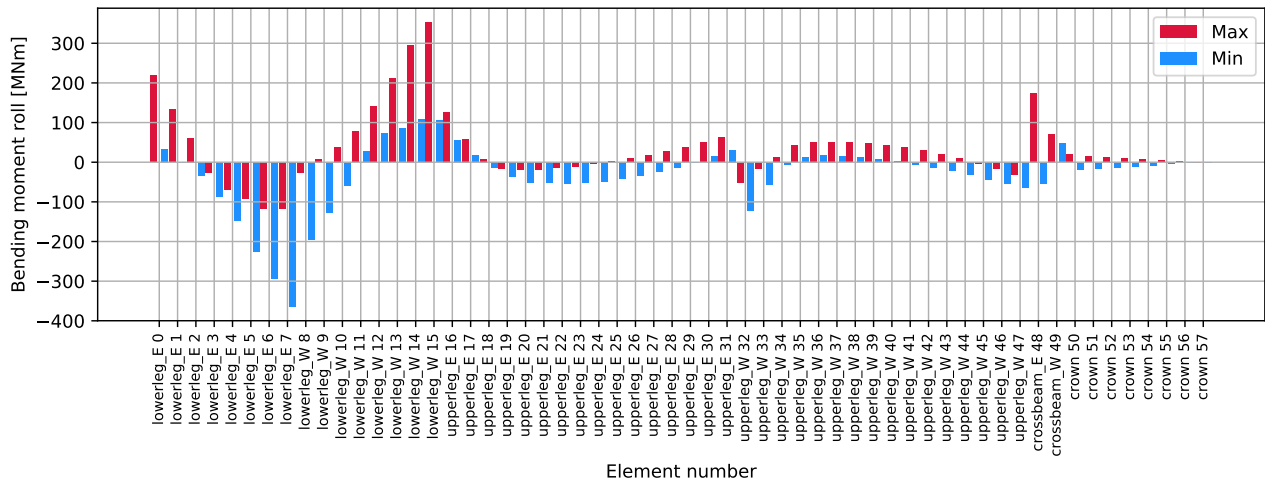


Figure 4.488: DH A39-A40 0deg - tower: Bending moment roll [MNm]

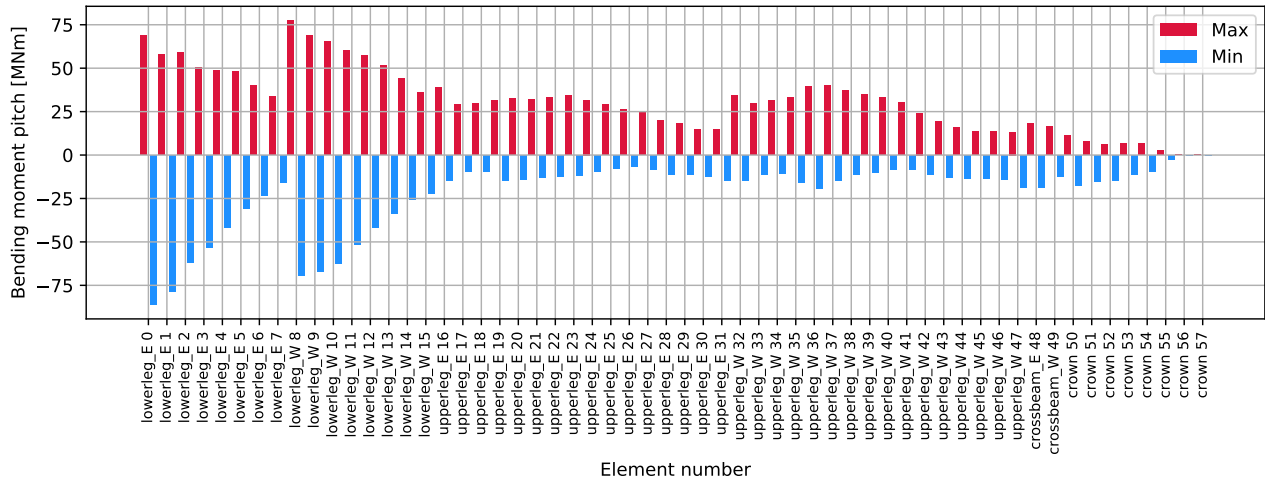


Figure 4.489: DH A39-A40 0deg - tower: Bending moment pitch [MNm]

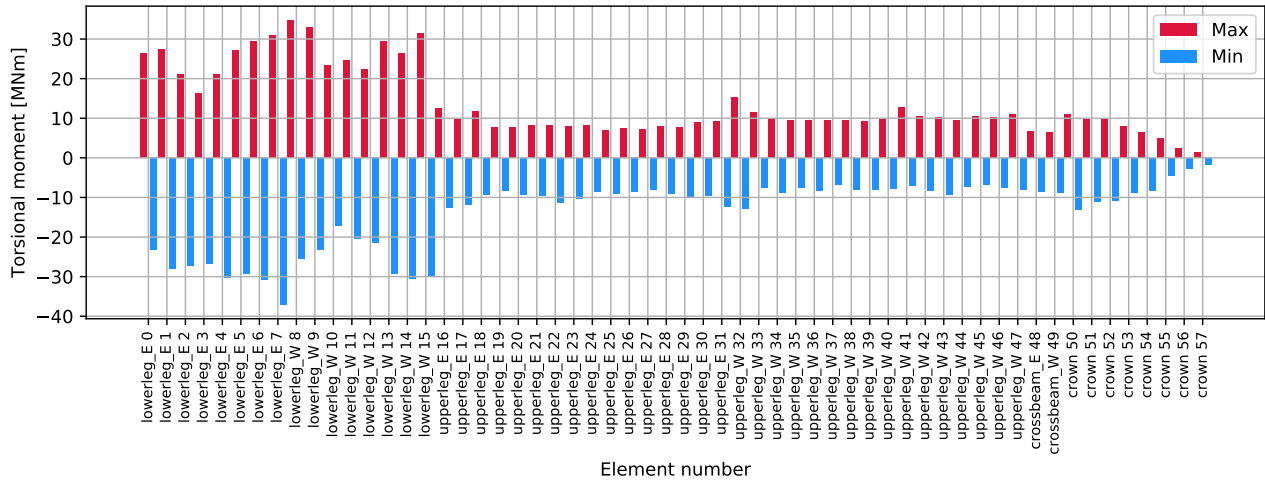


Figure 4.490: DH A39-A40 0deg - tower: Torsional moment [MNm]

4.11.3 Time series

Note : Time series are filtered using a Savitzky-Golay filter for increased readability of the time history plots. Hence, maximum values that occur due to a rapid vibration are not shown in the plots. For maximum values, refer to the tabulated data.

All elements are numbered from South to North, bottom to top

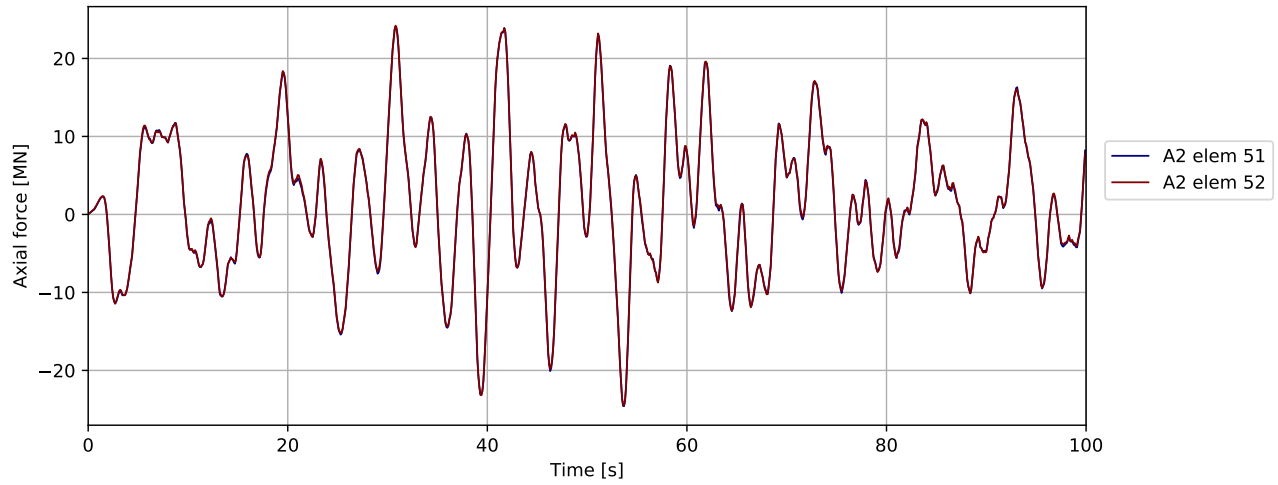


Figure 4.491: DH A39-A40 0deg - bridgegirder @ pylon: Axial force [MN]

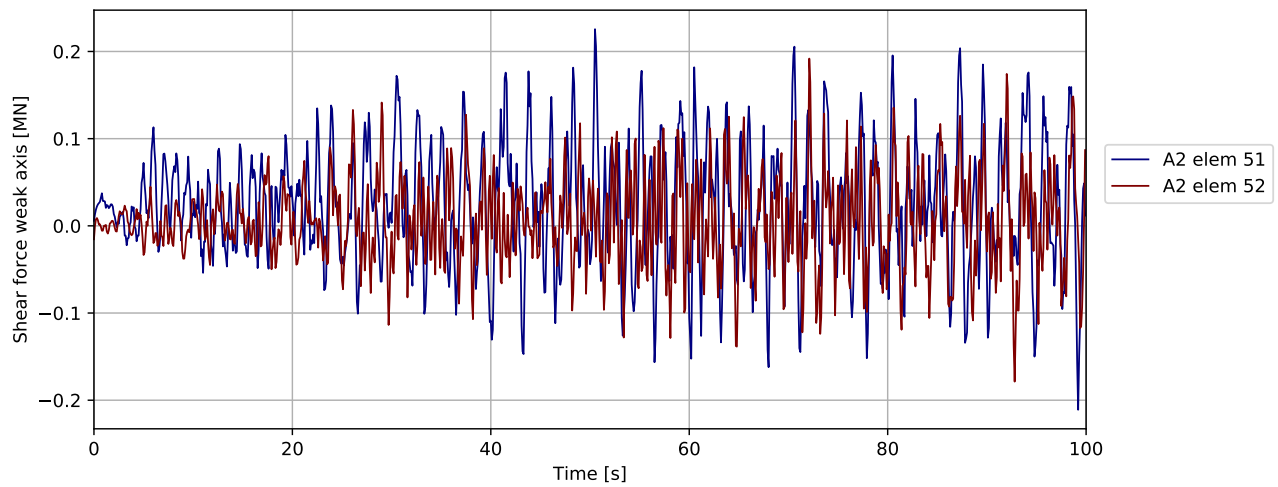


Figure 4.492: DH A39-A40 0deg - bridgegirder @ pylon: Shear force weak axis [MN]

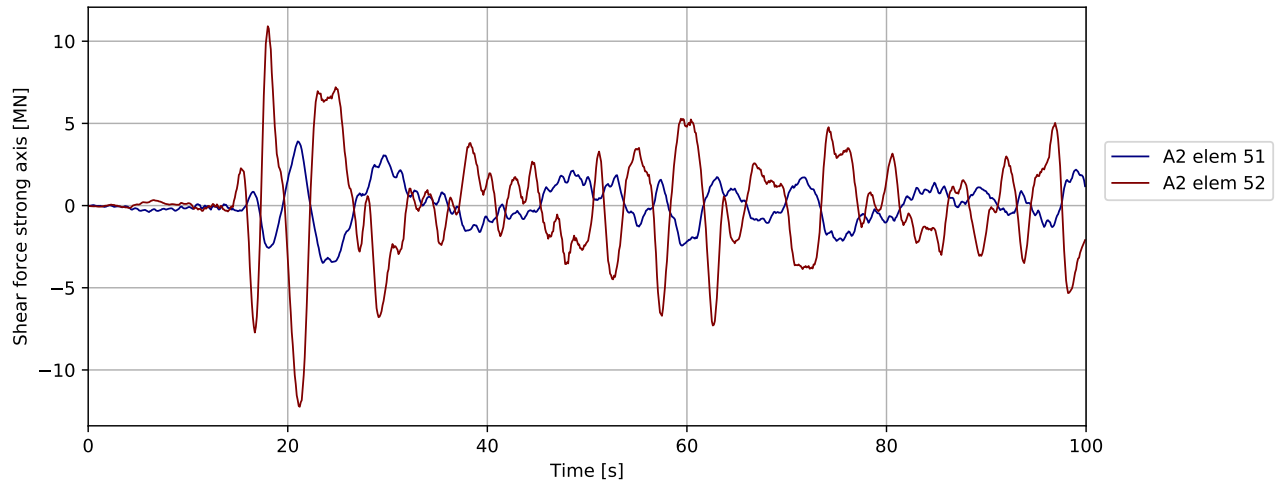


Figure 4.493: DH A39-A40 0deg - bridgegirder @ pylon: Shear force strong axis [MN]

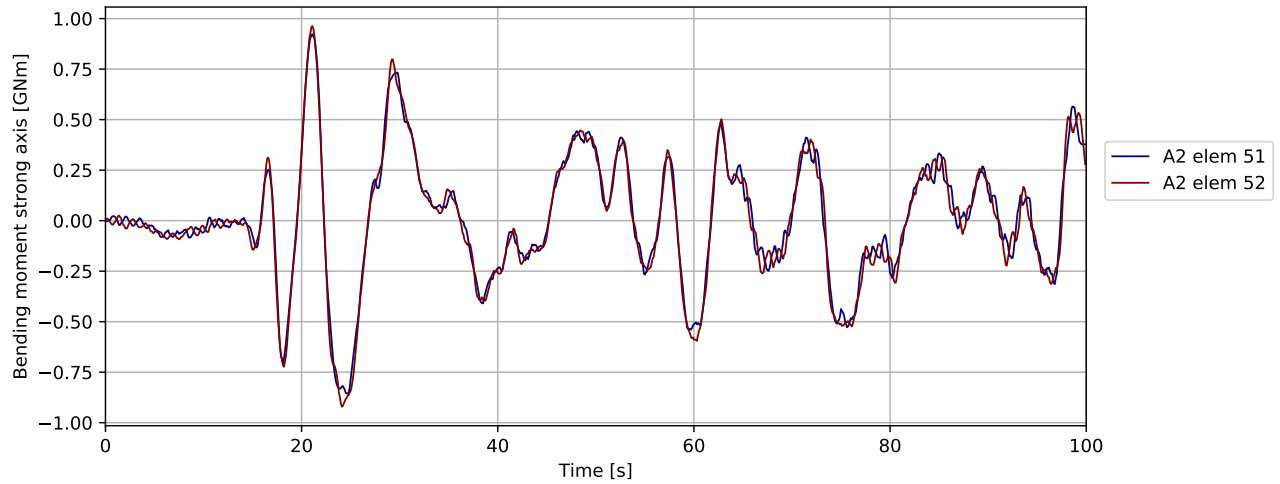


Figure 4.494: DH A39-A40 0deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

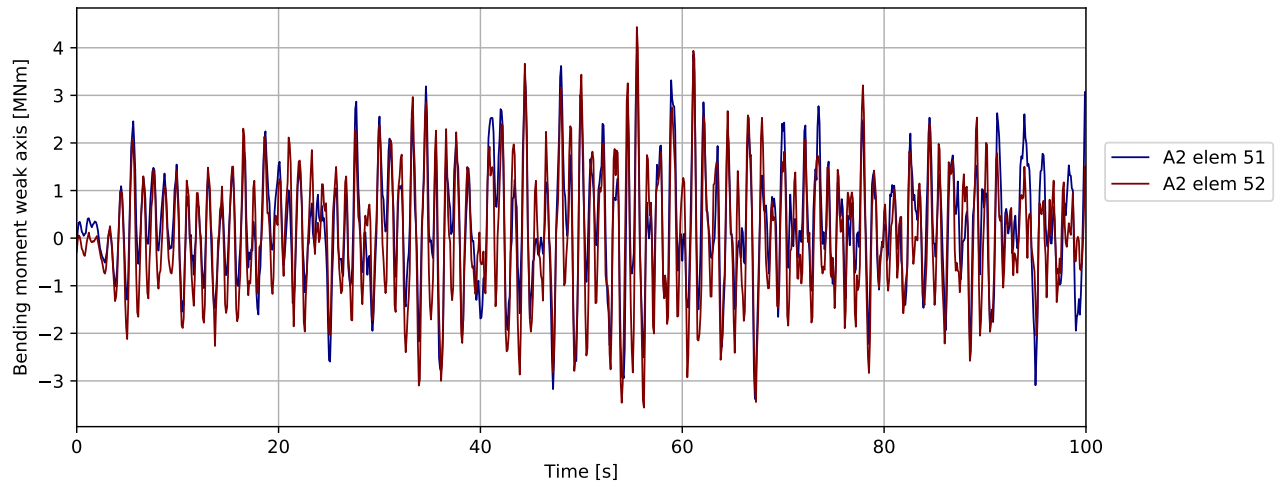


Figure 4.495: DH A39-A40 0deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

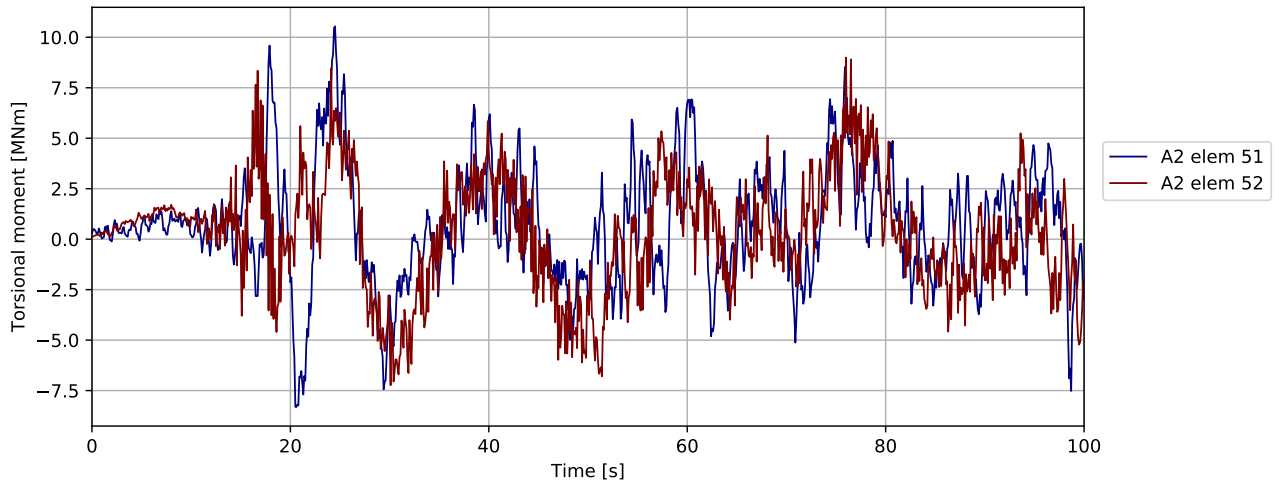


Figure 4.496: DH A39-A40 0deg - bridgegirder @ pylon: Torsional moment [MNm]

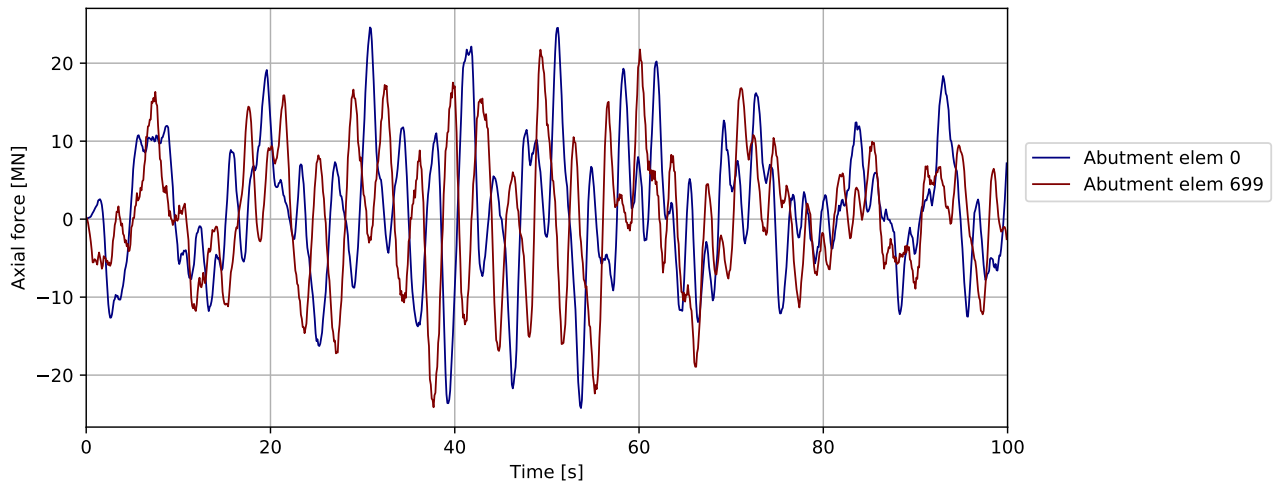


Figure 4.497: DH A39-A40 0deg - bridgegirder @abutments: Axial force [MN]

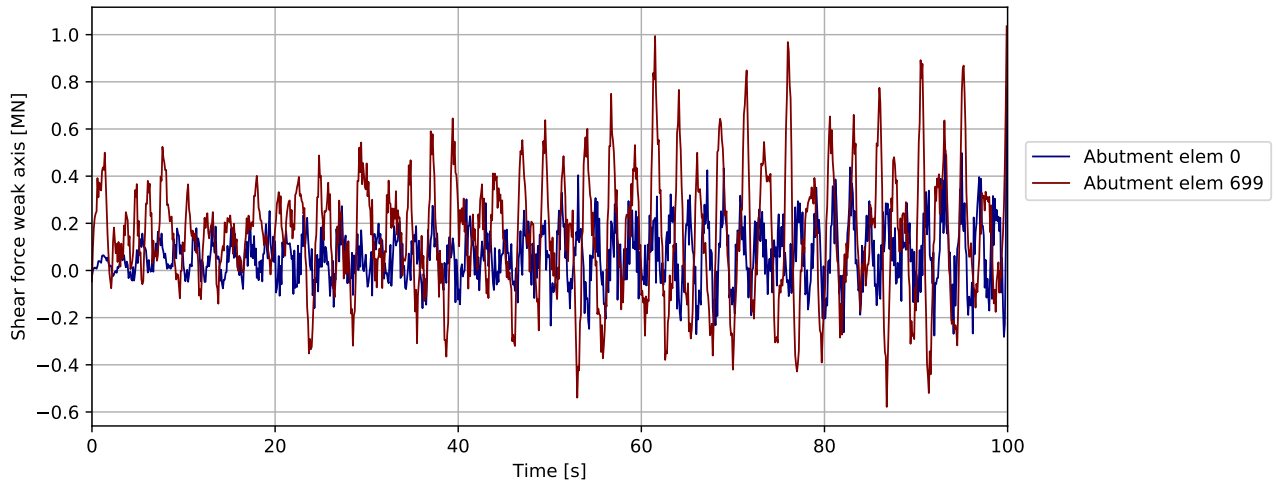


Figure 4.498: DH A39-A40 0deg - bridgegirder @abutments: Shear force weak axis [MN]

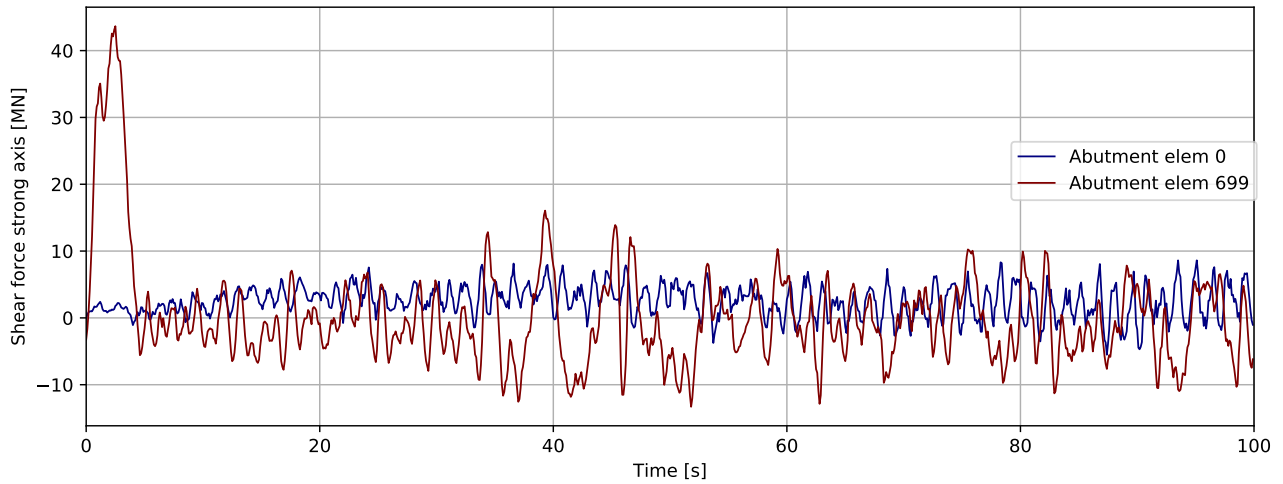


Figure 4.499: DH A39-A40 0deg - bridgegirder @abutments: Shear force strong axis [MN]

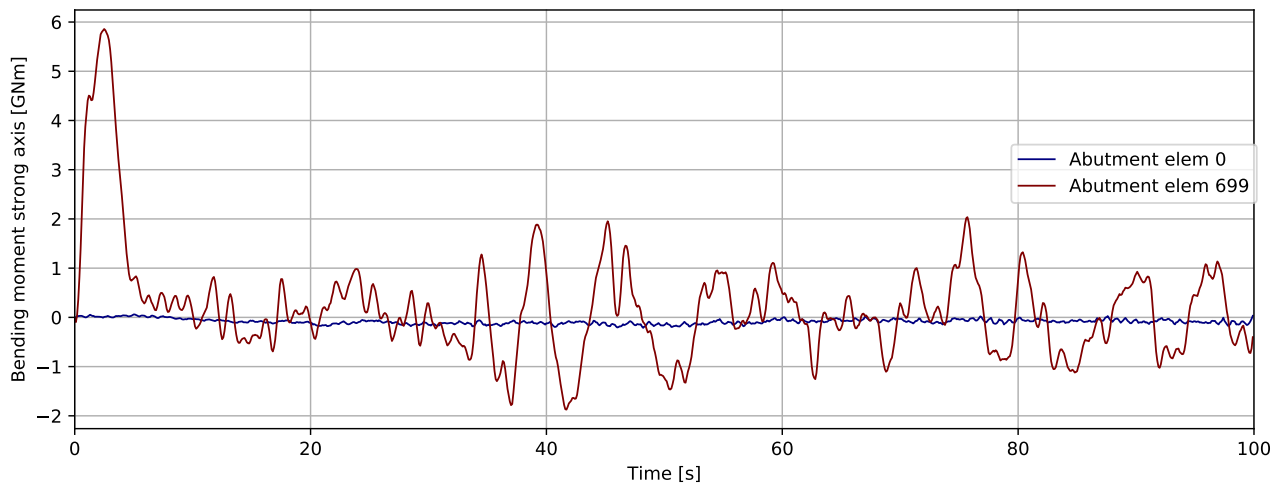


Figure 4.500: DH A39-A40 0deg - bridgegirder @abutments: Bending moment strong axis [GNm]

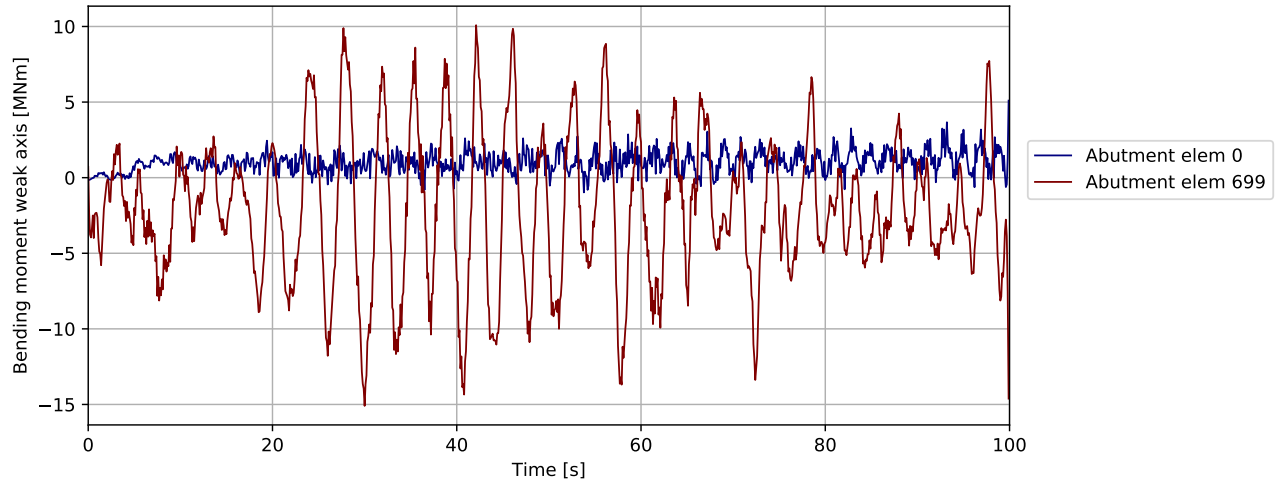


Figure 4.501: DH A39-A40 0deg - bridgegirder @abutments: Bending moment weak axis [MNm]

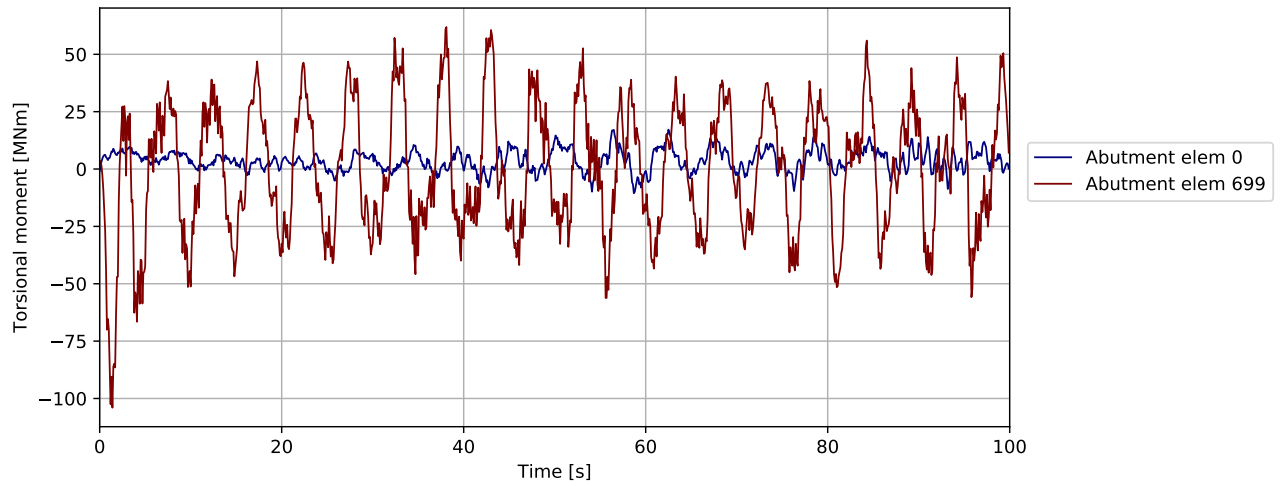


Figure 4.502: DH A39-A40 0deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

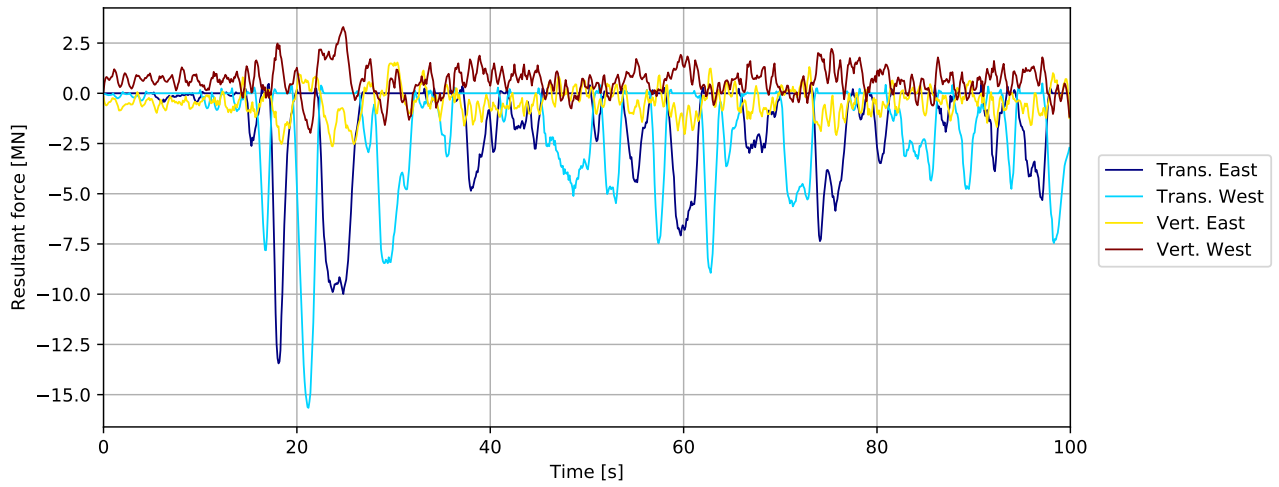


Figure 4.503: DH A39-A40 0deg - bridgegirder supports in tower: Resultant force [MN]

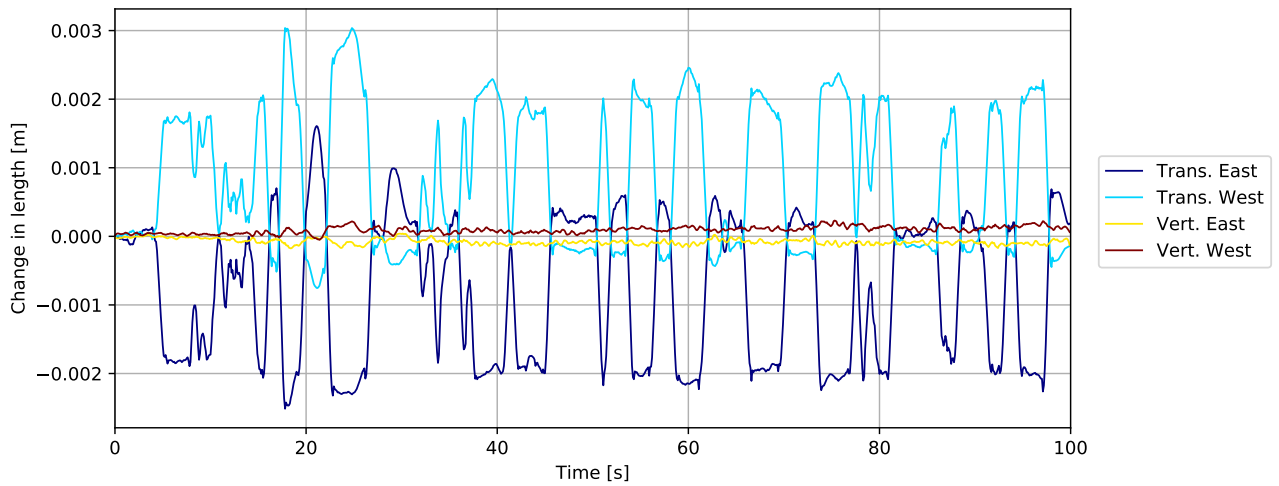


Figure 4.504: DH A39-A40 0deg - bridgegirder supports in tower: Change in length [m]

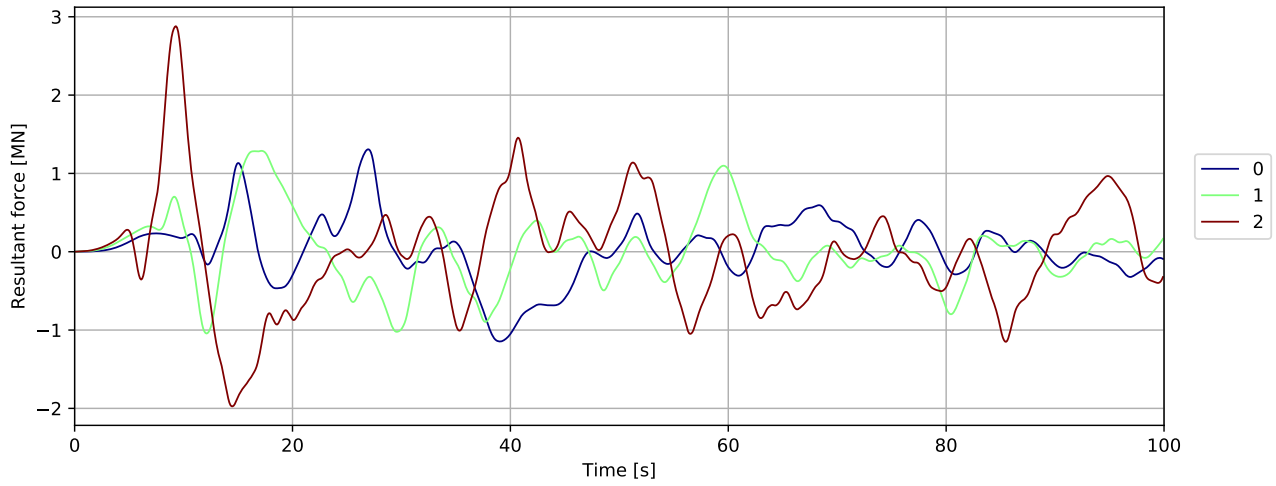


Figure 4.505: Mooring force

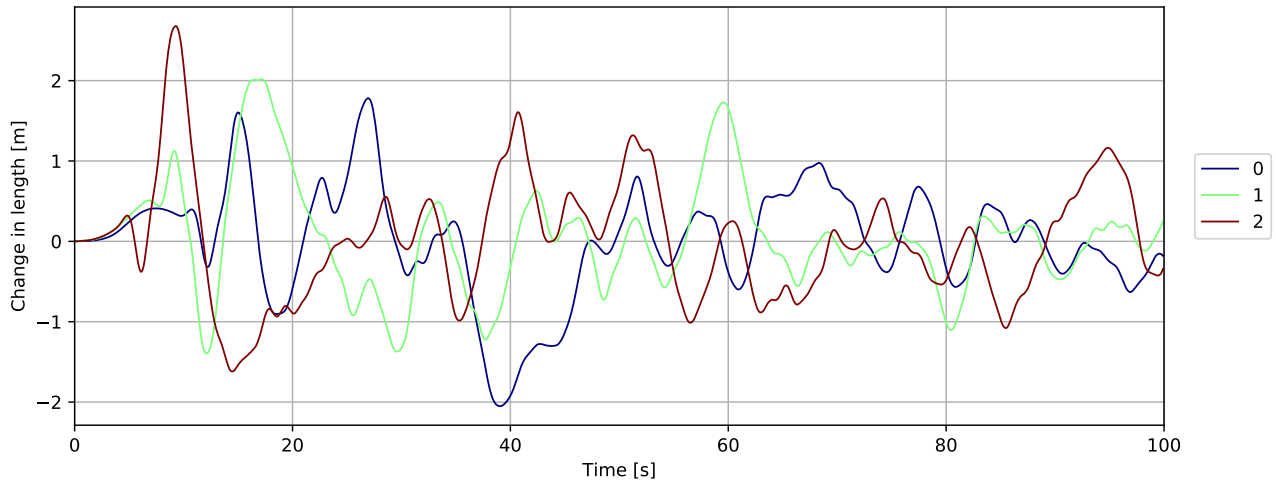


Figure 4.506: Mooring displacement

4.12 Deck house A7-A8 180deg

4.12.1 Overall response

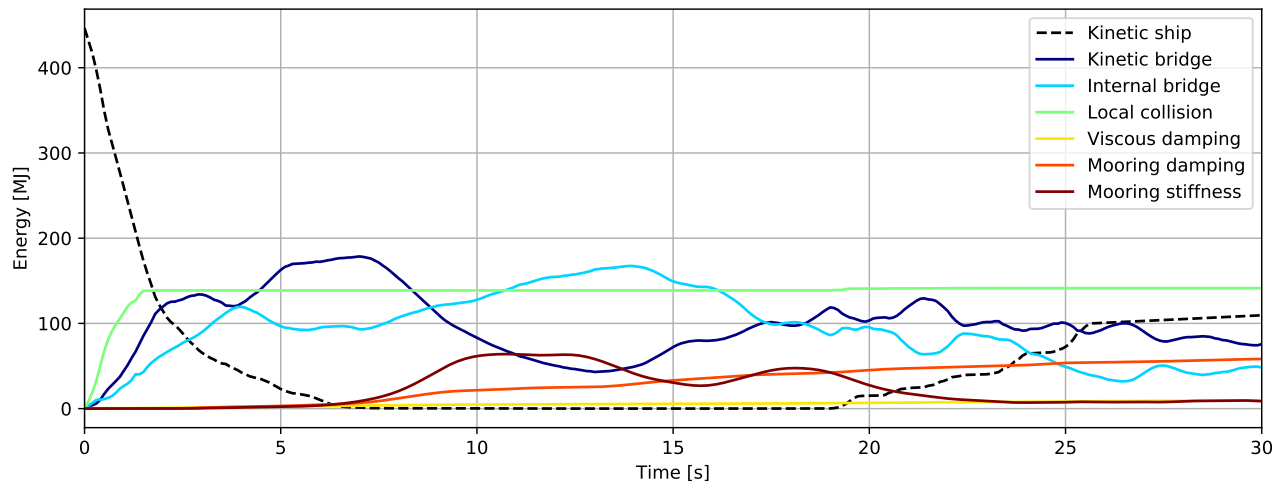


Figure 4.507: Energy [MJ] - initial phase

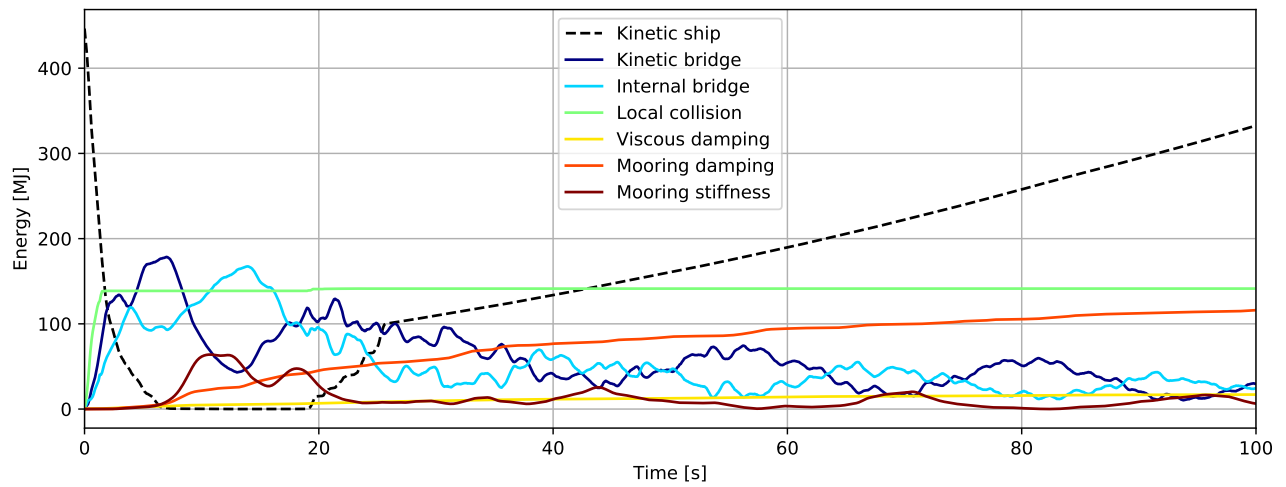


Figure 4.508: Energy [MJ]

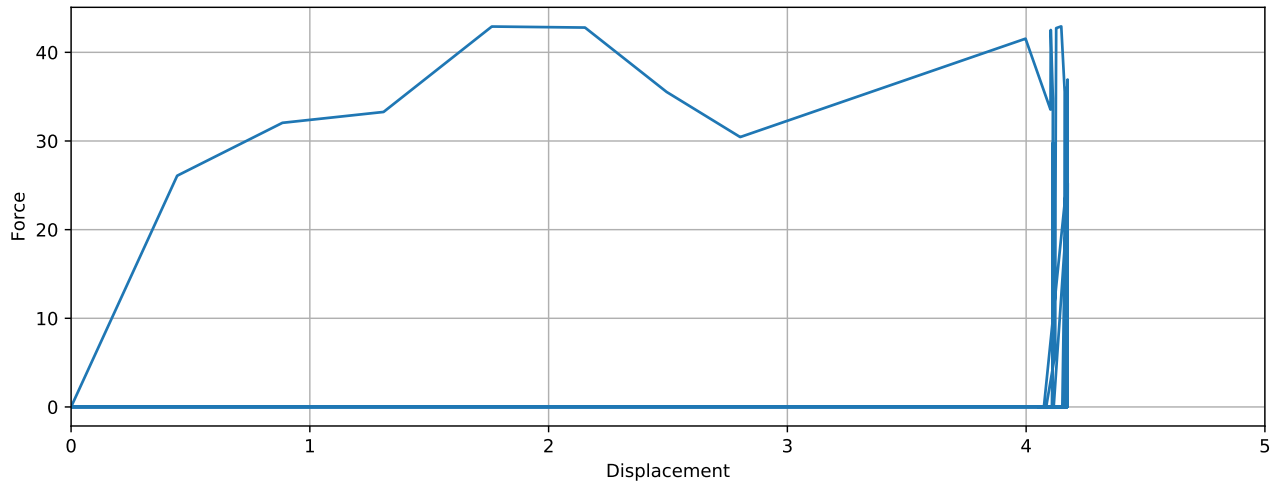


Figure 4.509: Simulated local collision force-displacement

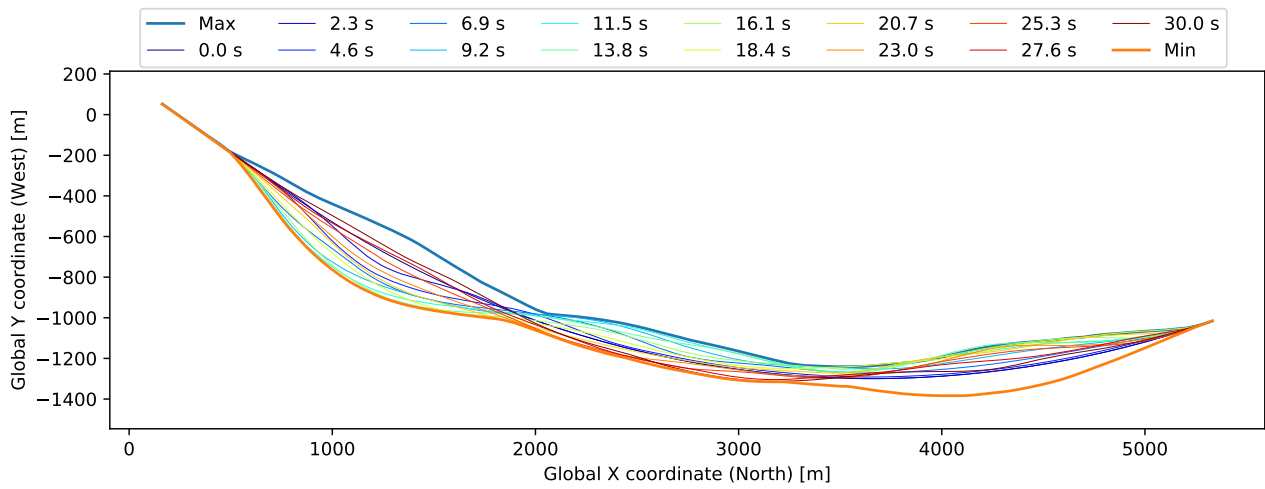


Figure 4.510: Bridgegirder deflection (10x displacement scaling)

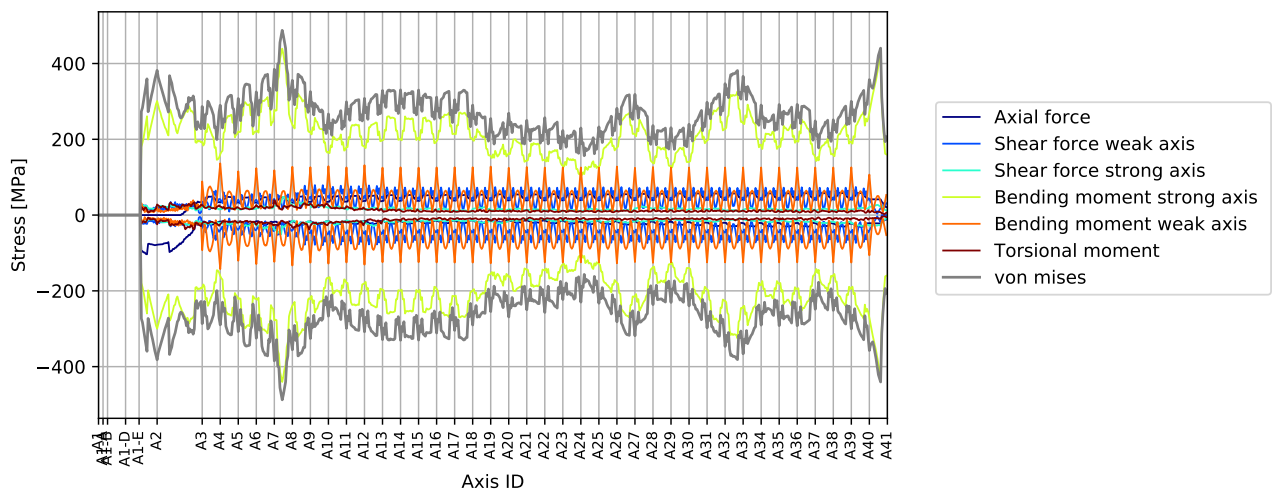


Figure 4.511: Stress envelope from all force components

4.12.2 Envelope plots

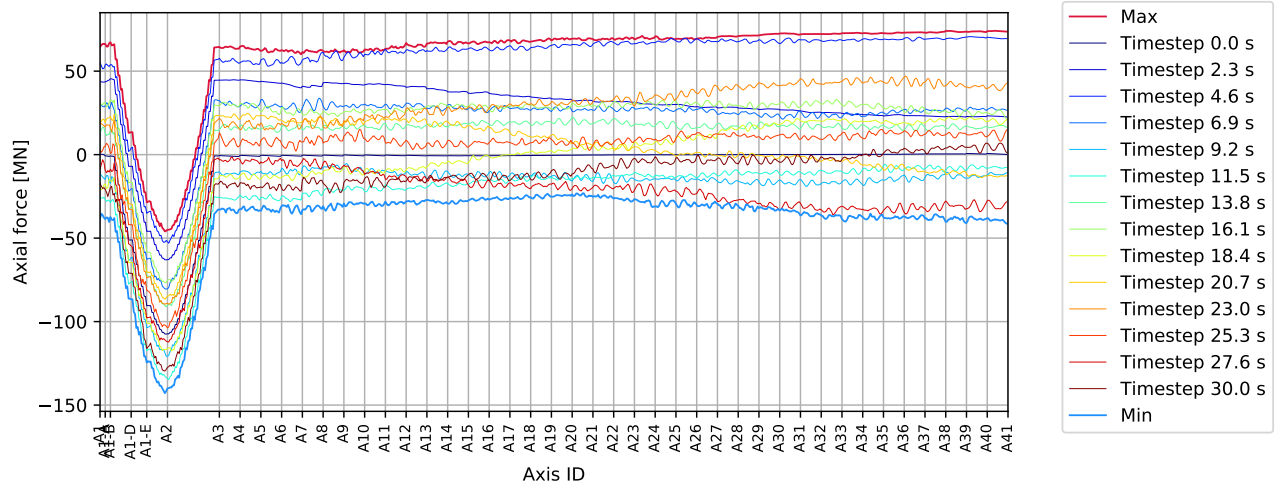


Figure 4.512: DH A7-A8 180deg - bridgегirder : Axial force [MN]

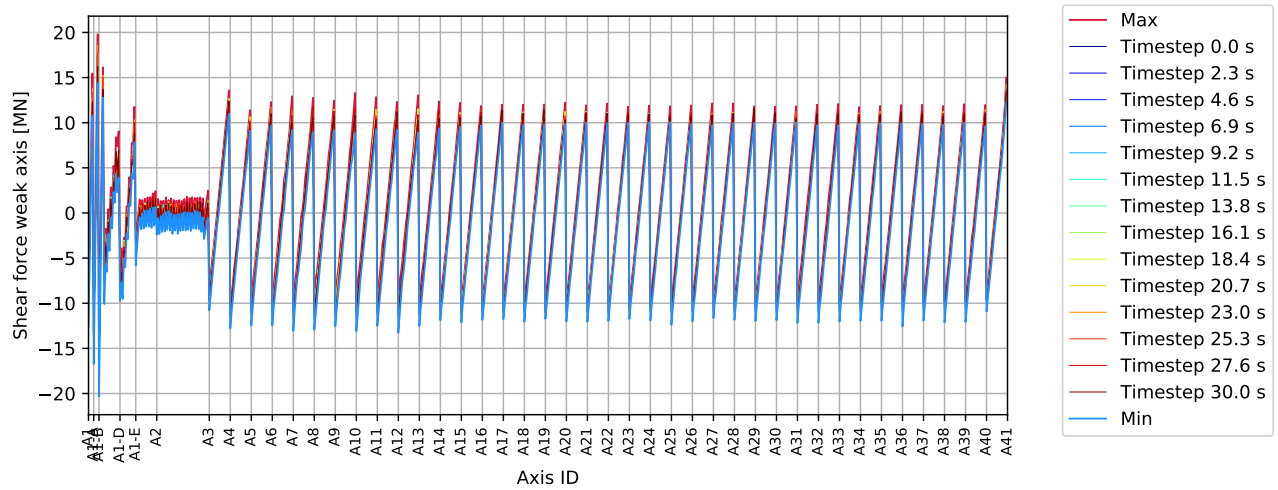


Figure 4.513: DH A7-A8 180deg - bridgегirder : Shear force weak axis [MN]

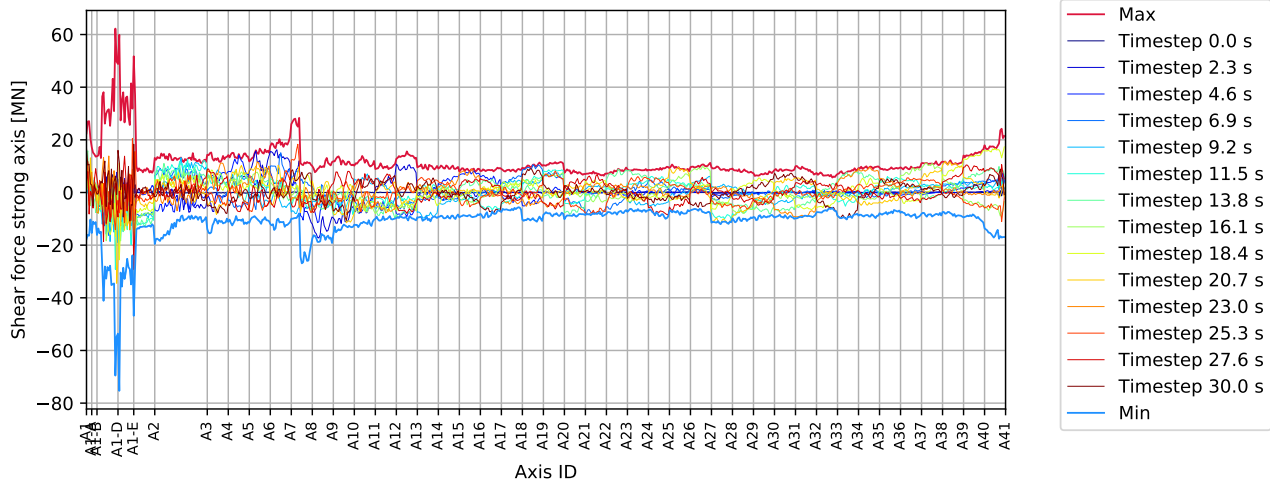


Figure 4.514: DH A7-A8 180deg - bridgegirder : Shear force strong axis [MN]

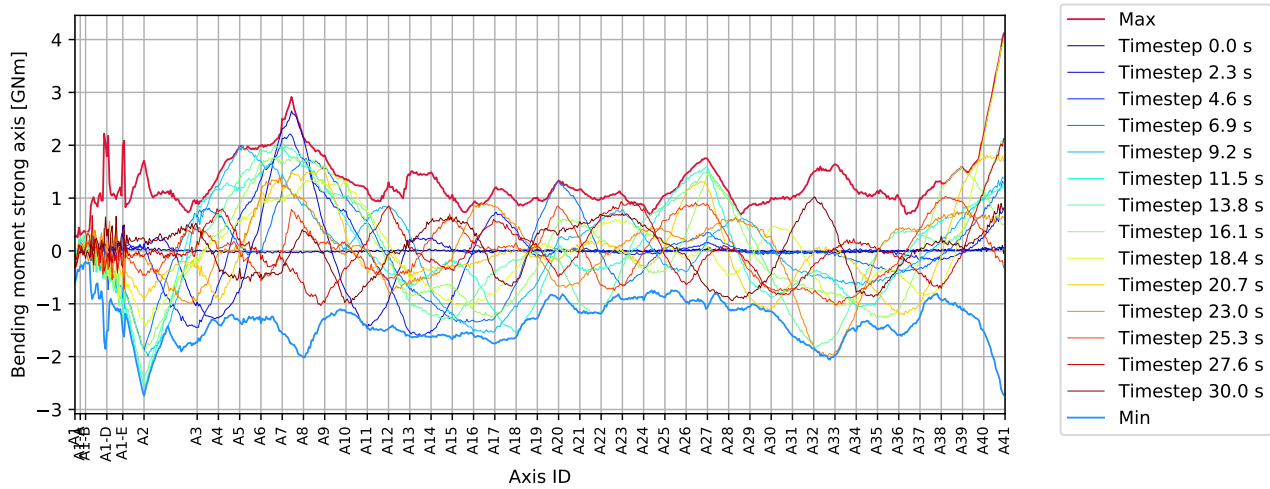


Figure 4.515: DH A7-A8 180deg - bridgegirder : Bending moment strong axis [GNm]

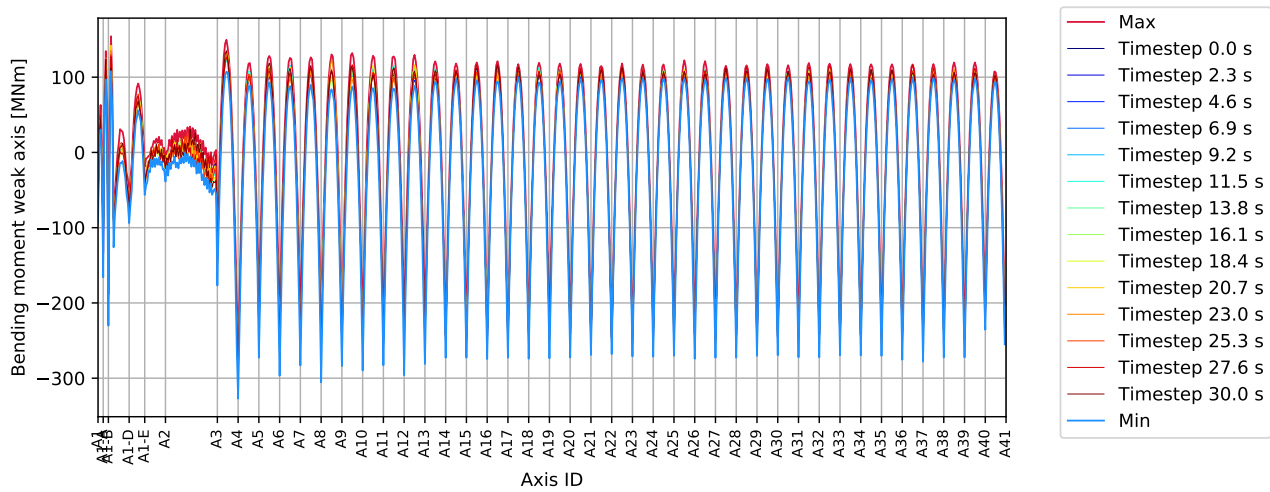


Figure 4.516: DH A7-A8 180deg - bridgegirder : Bending moment weak axis [MNm]

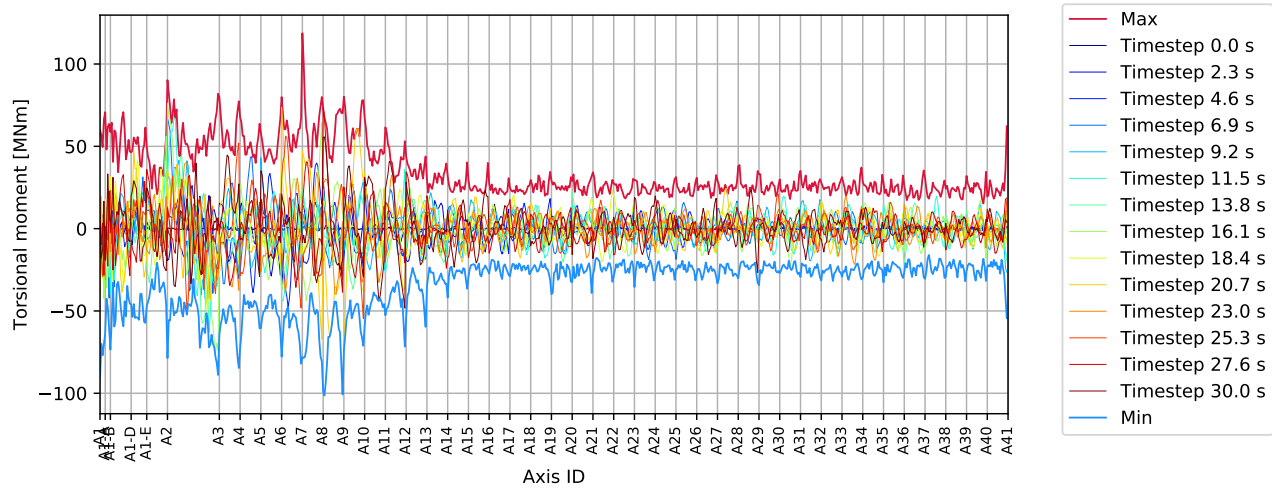


Figure 4.517: DH A7-A8 180deg - bridgegirder : Torsional moment [MNm]

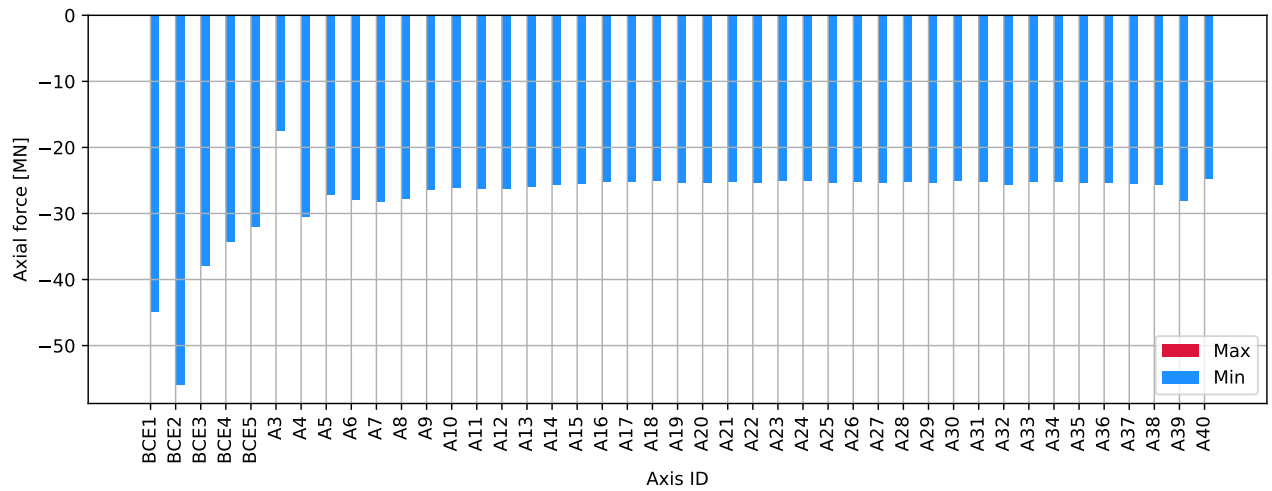


Figure 4.518: DH A7-A8 180deg - columns bottom : Axial force [MN]

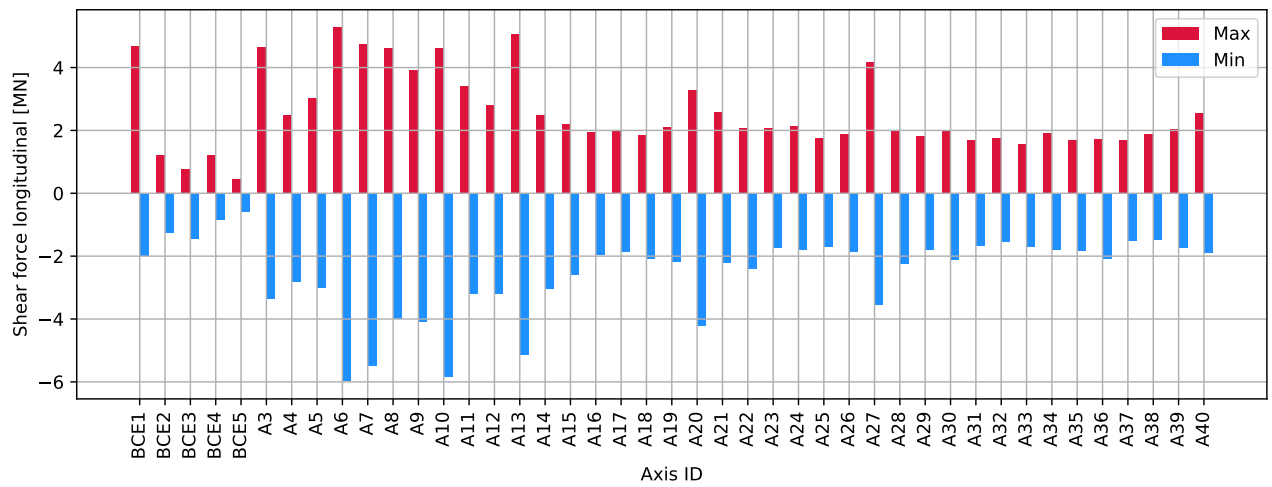


Figure 4.519: DH A7-A8 180deg - columns bottom : Shear force longitudinal [MN]

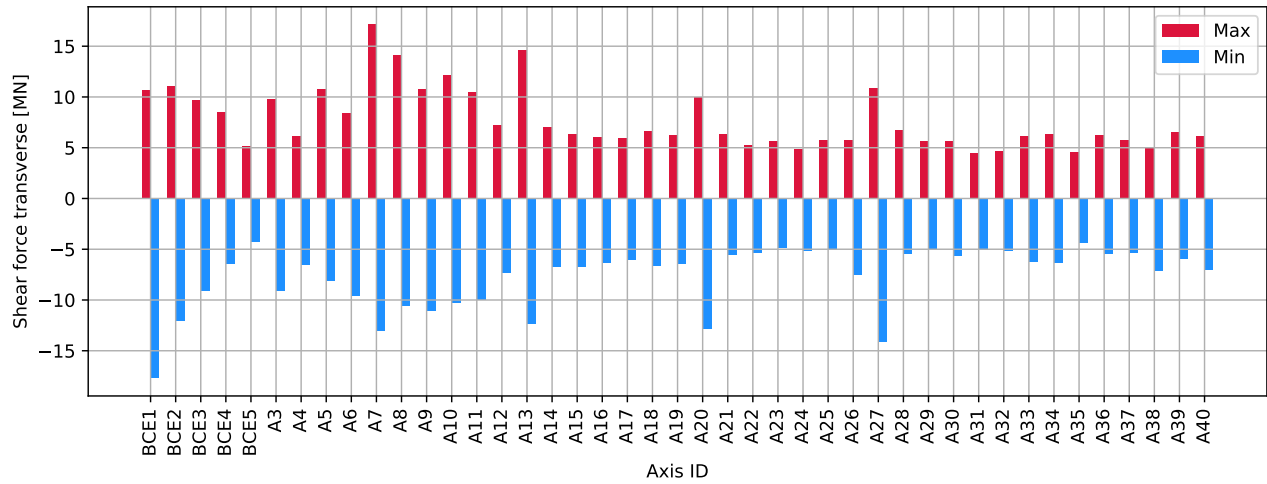


Figure 4.520: DH A7-A8 180deg - columns bottom : Shear force transverse [MN]

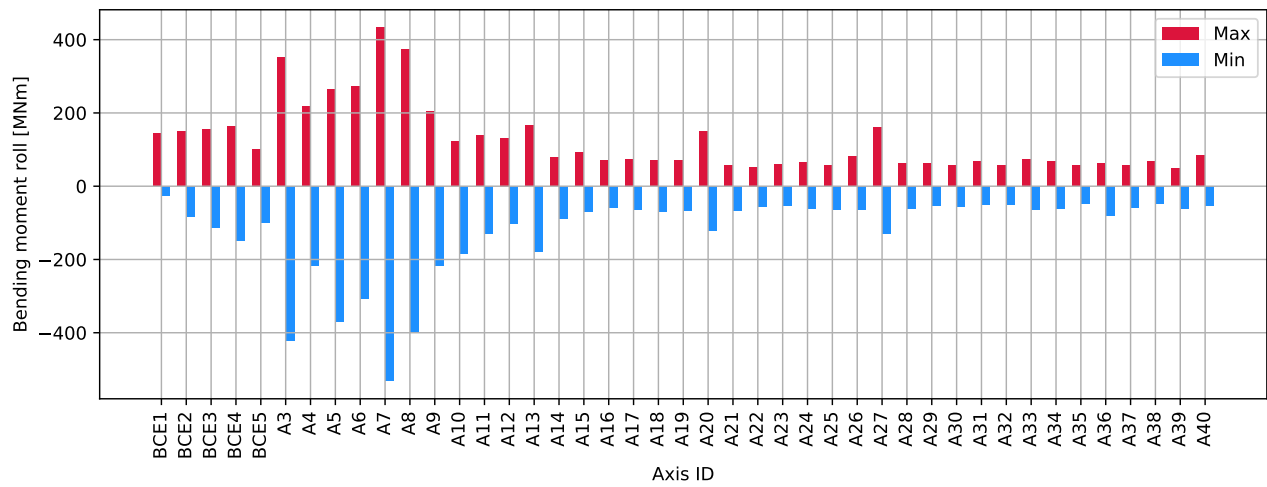


Figure 4.521: DH A7-A8 180deg - columns bottom : Bending moment roll [MNm]

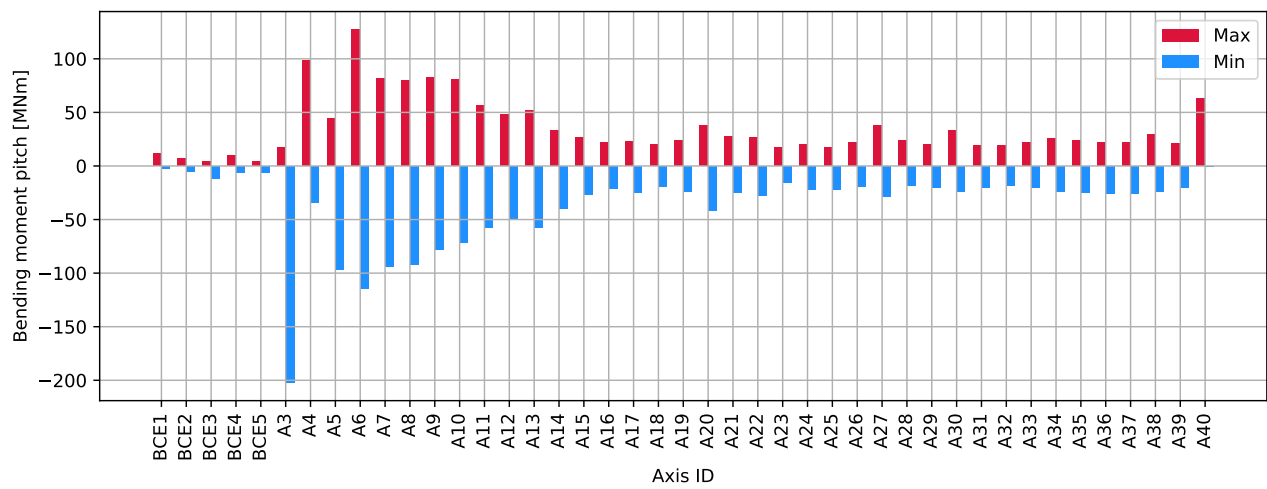


Figure 4.522: DH A7-A8 180deg - columns bottom : Bending moment pitch [MNm]

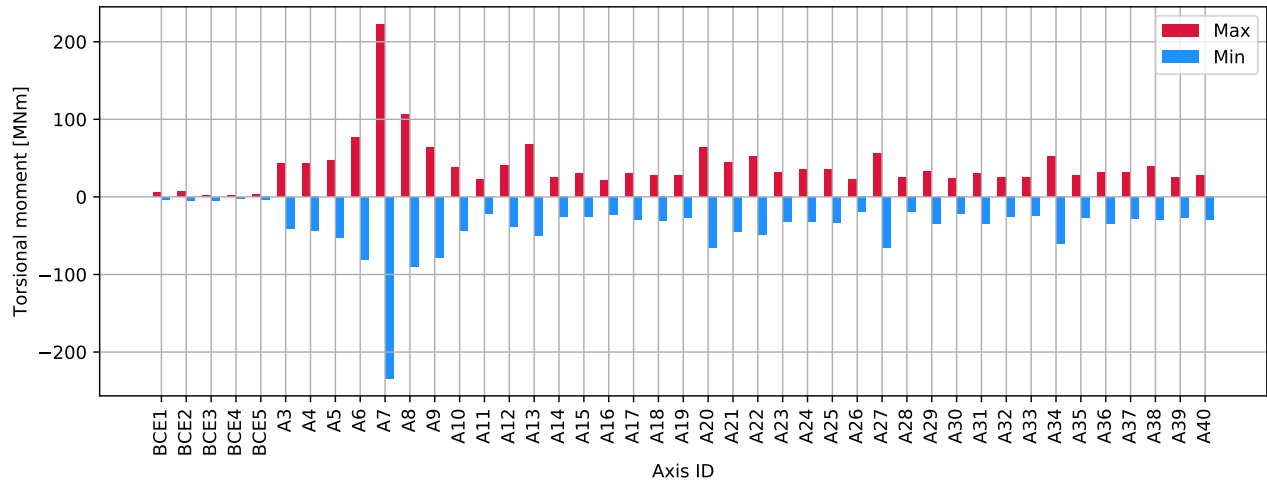


Figure 4.523: DH A7-A8 180deg - columns bottom : Torsional moment [MNm]

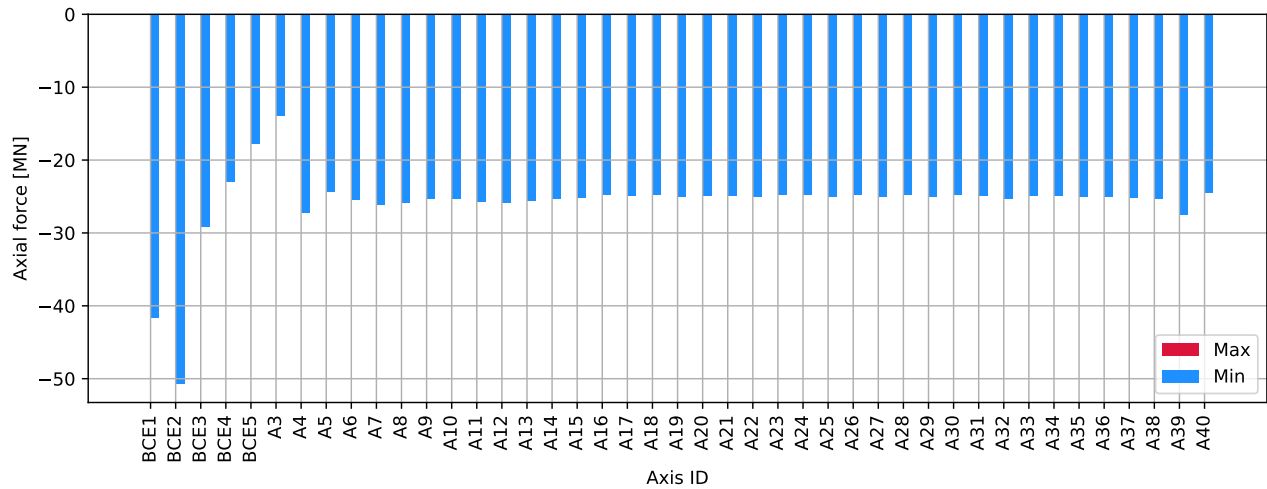


Figure 4.524: DH A7-A8 180deg - columns top : Axial force [MN]

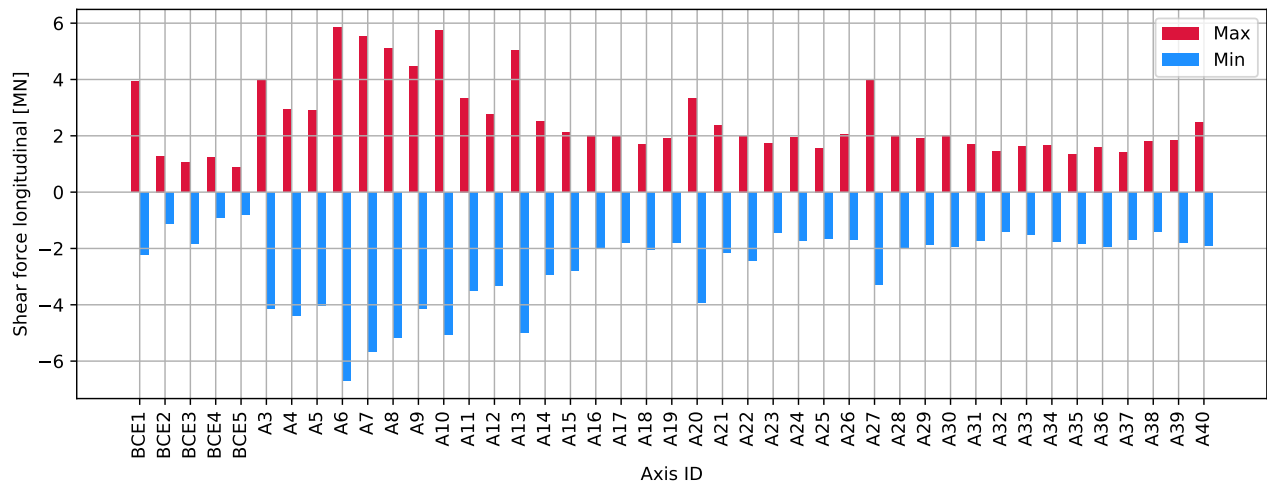


Figure 4.525: DH A7-A8 180deg - columns top : Shear force longitudinal [MN]

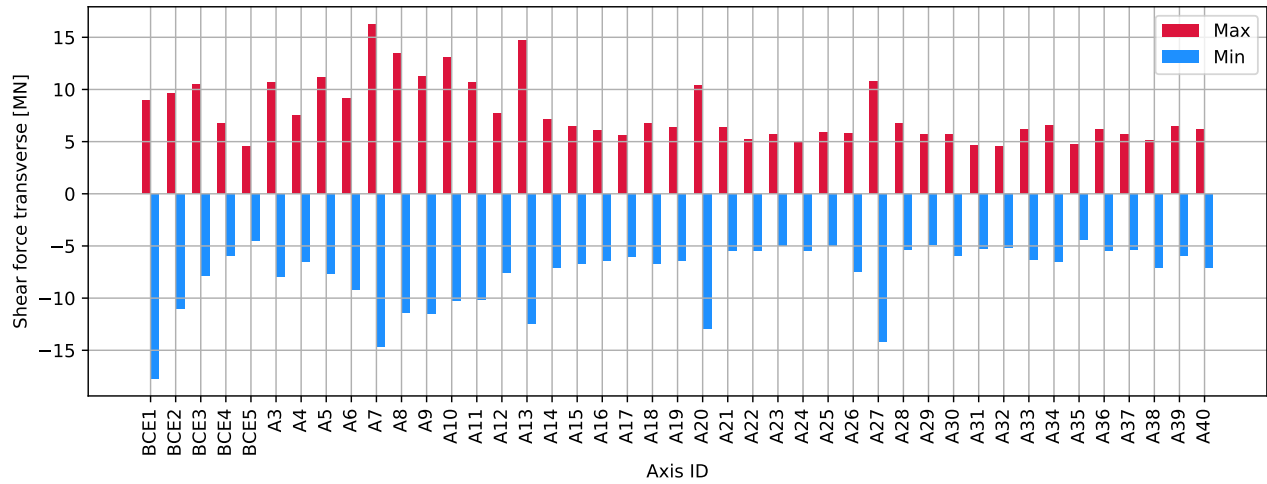


Figure 4.526: DH A7-A8 180deg - columns top : Shear force transverse [MN]

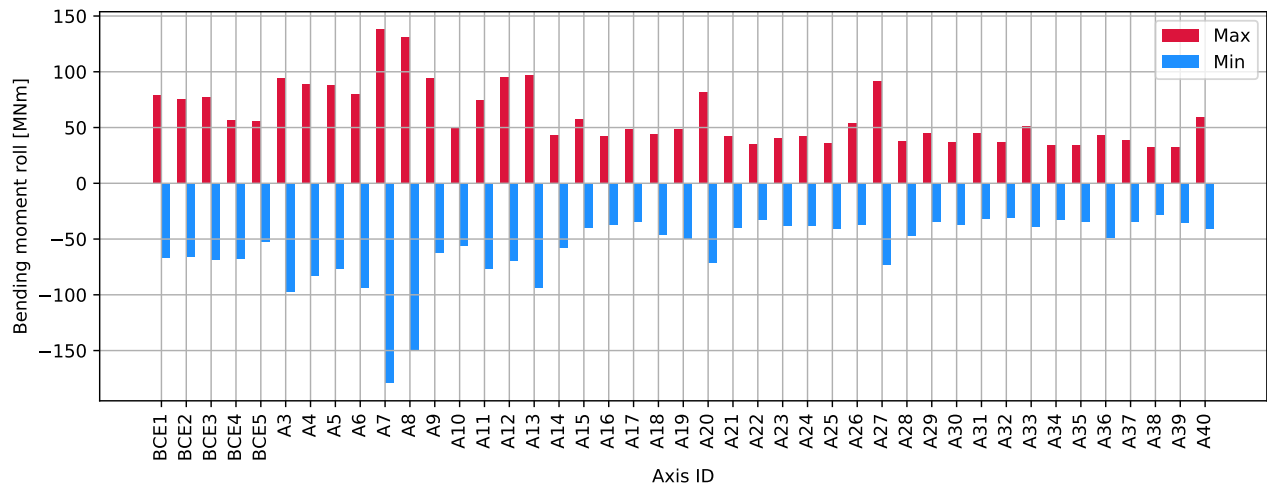


Figure 4.527: DH A7-A8 180deg - columns top : Bending moment roll [MNm]

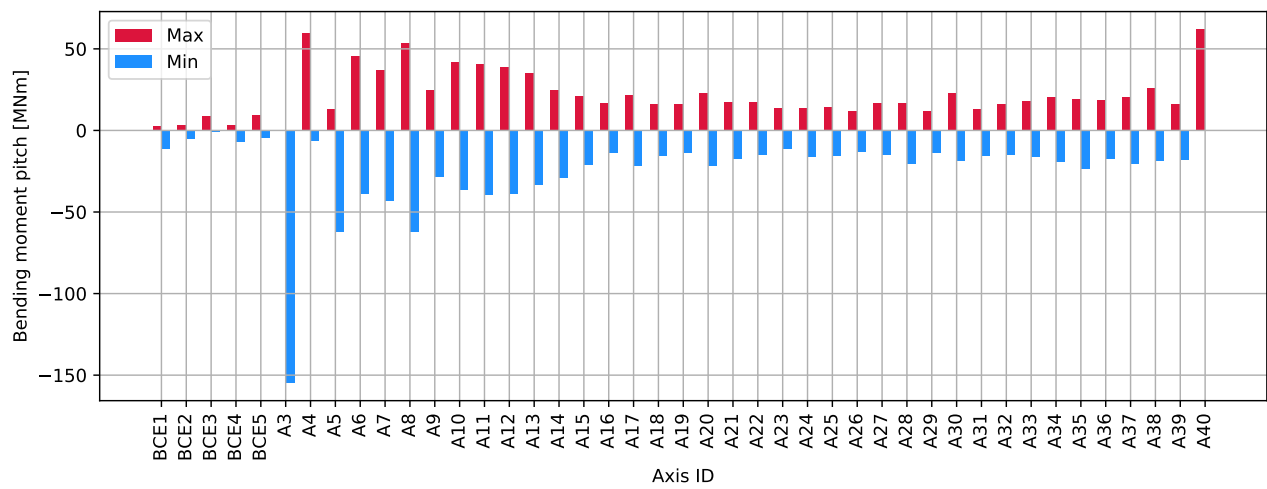


Figure 4.528: DH A7-A8 180deg - columns top : Bending moment pitch [MNm]

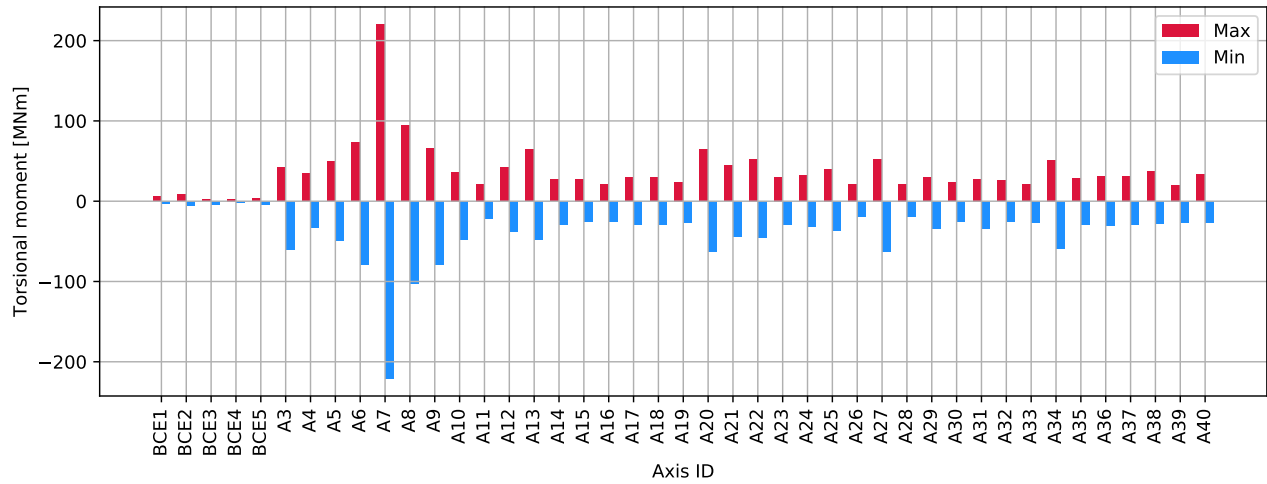


Figure 4.529: DH A7-A8 180deg - columns top : Torsional moment [MNm]

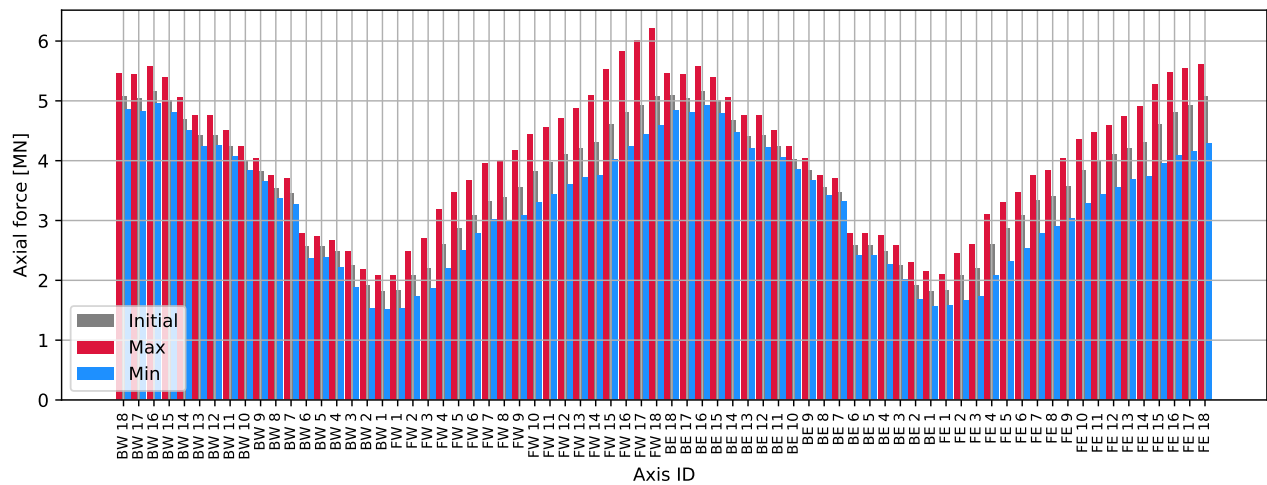


Figure 4.530: DH A7-A8 180deg - cables : Axial force [MN]

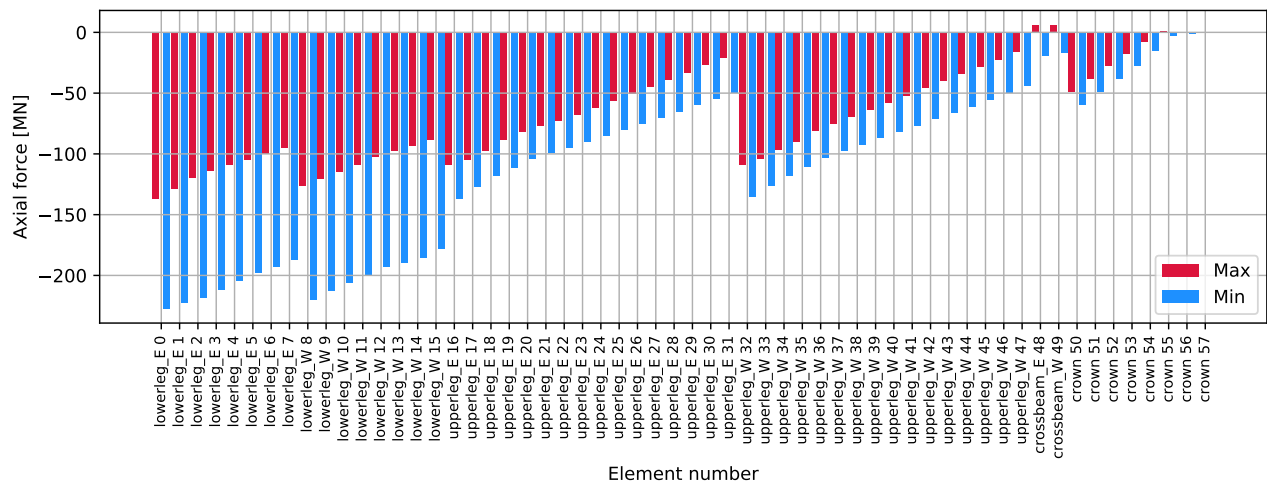


Figure 4.531: DH A7-A8 180deg - tower: Axial force [MN]

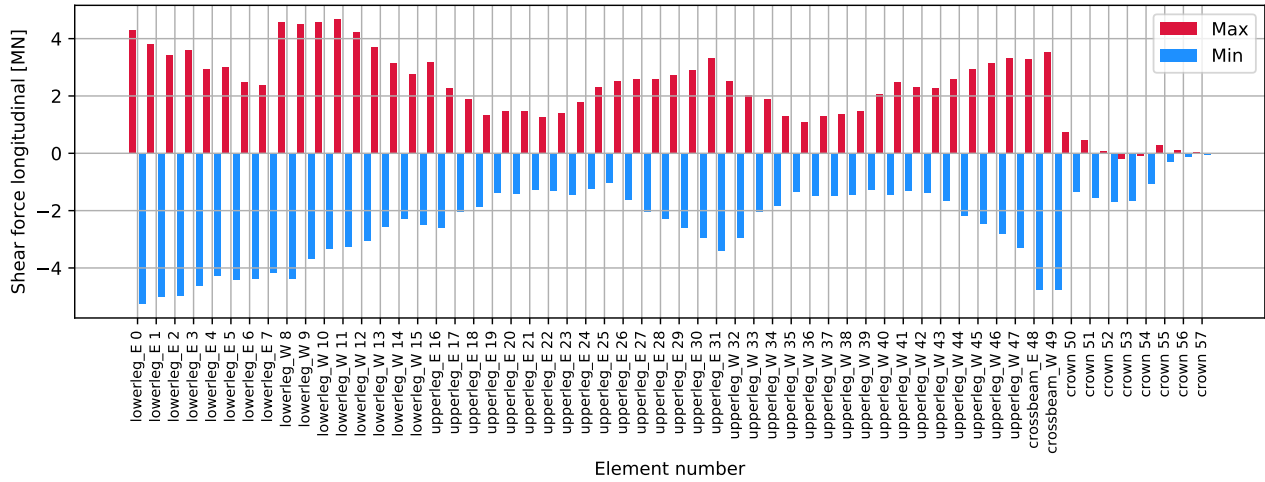


Figure 4.532: DH A7-A8 180deg - tower: Shear force longitudinal [MN]

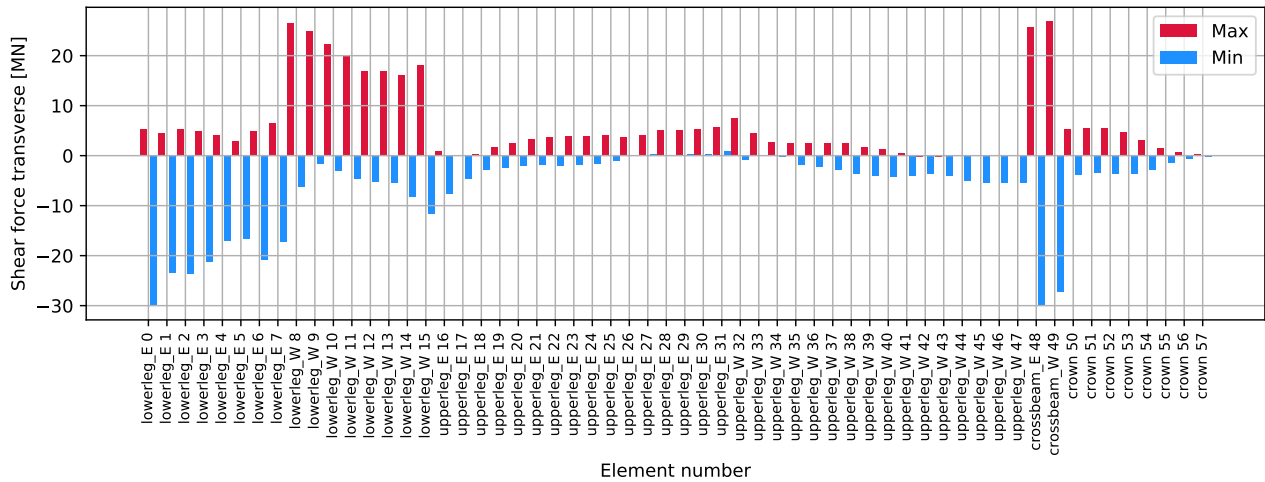


Figure 4.533: DH A7-A8 180deg - tower: Shear force transverse [MN]

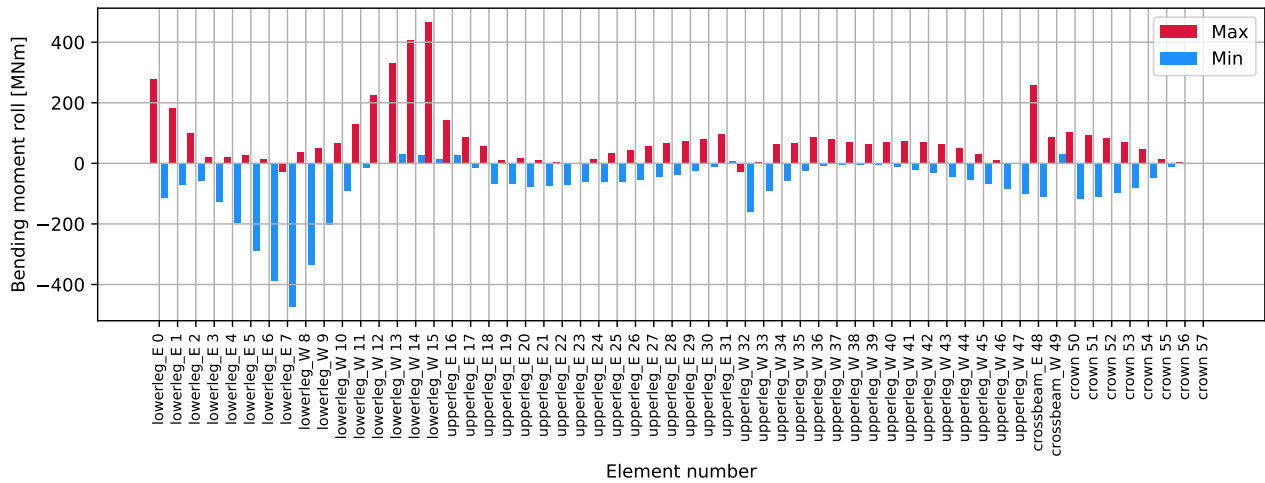


Figure 4.534: DH A7-A8 180deg - tower: Bending moment roll [MNm]

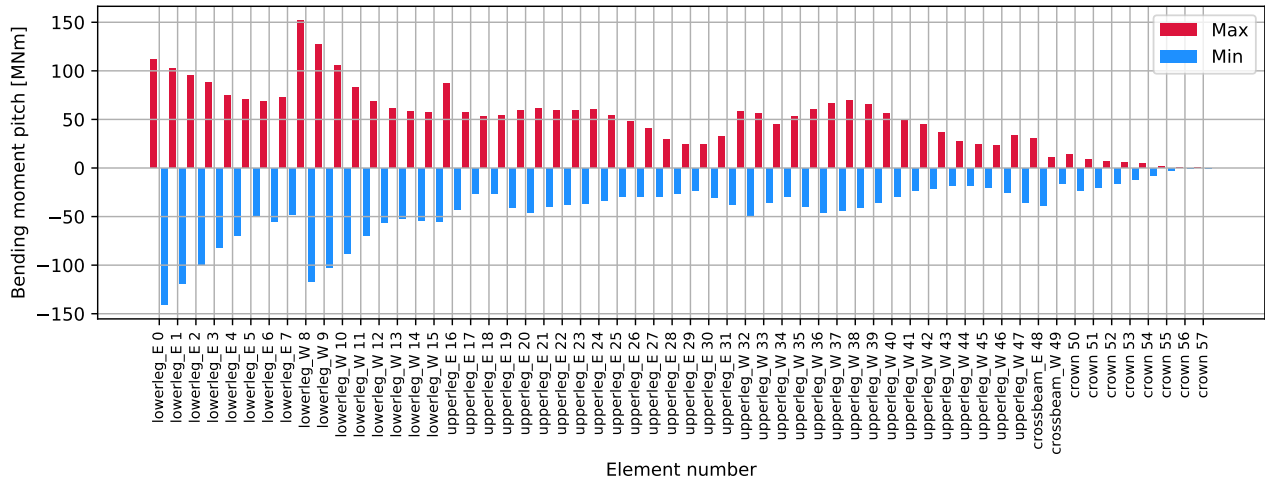


Figure 4.535: DH A7-A8 180deg - tower: Bending moment pitch [MNm]

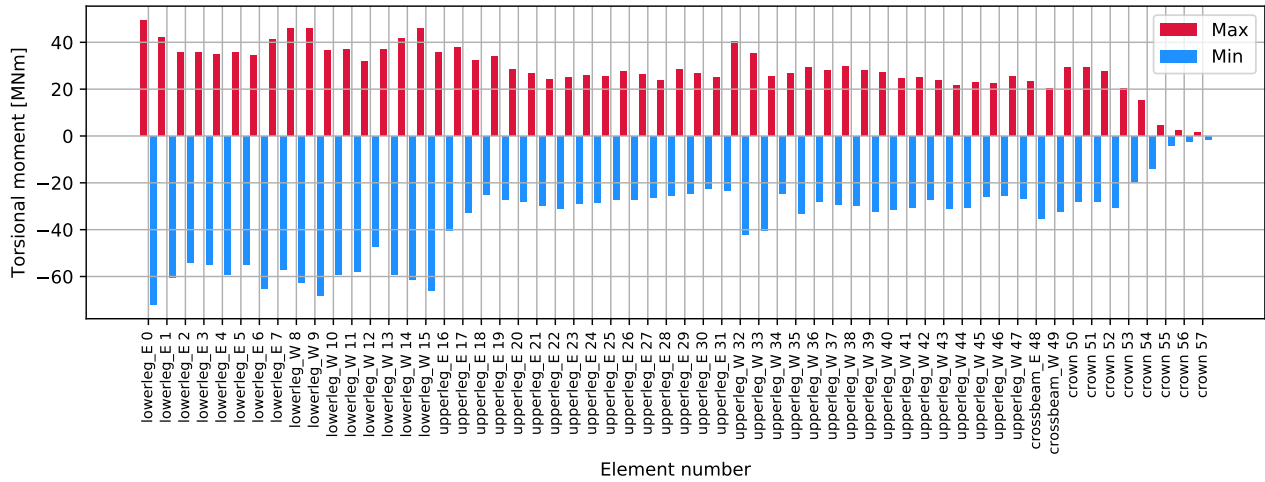


Figure 4.536: DH A7-A8 180deg - tower: Torsional moment [MNm]

4.12.3 Time series

Note : Time series are filtered using a Savitzky-Golay filter for increased readability of the time history plots. Hence, maximum values that occur due to a rapid vibration are not shown in the plots. For maximum values, refer to the tabulated data.

All elements are numbered from South to North, bottom to top

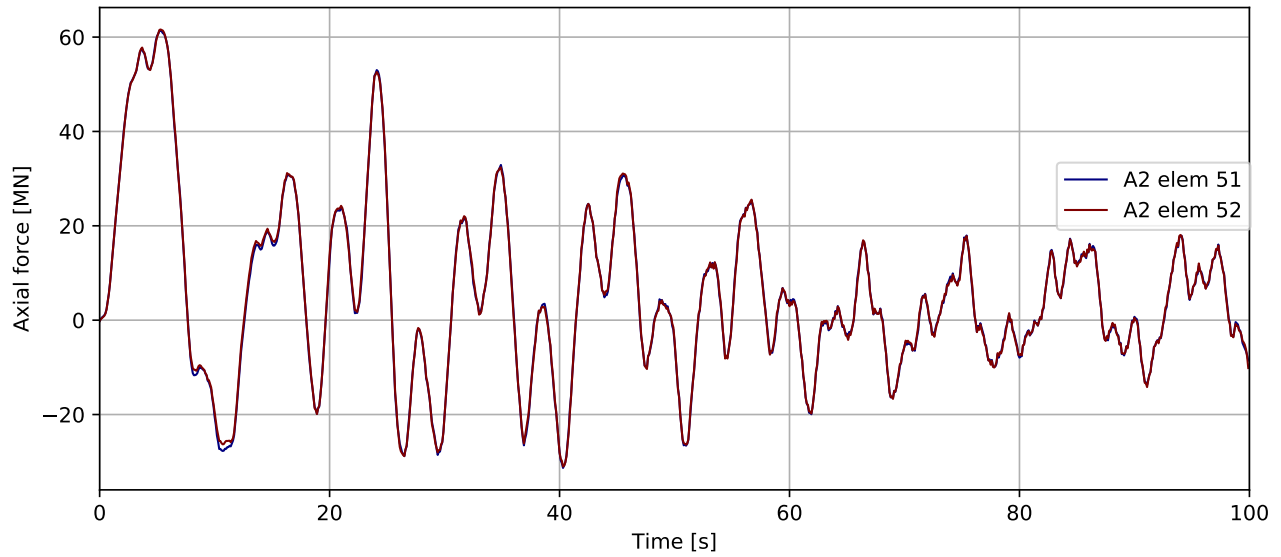


Figure 4.537: DH A7-A8 180deg - bridgegirder @ pylon: Axial force [MN]

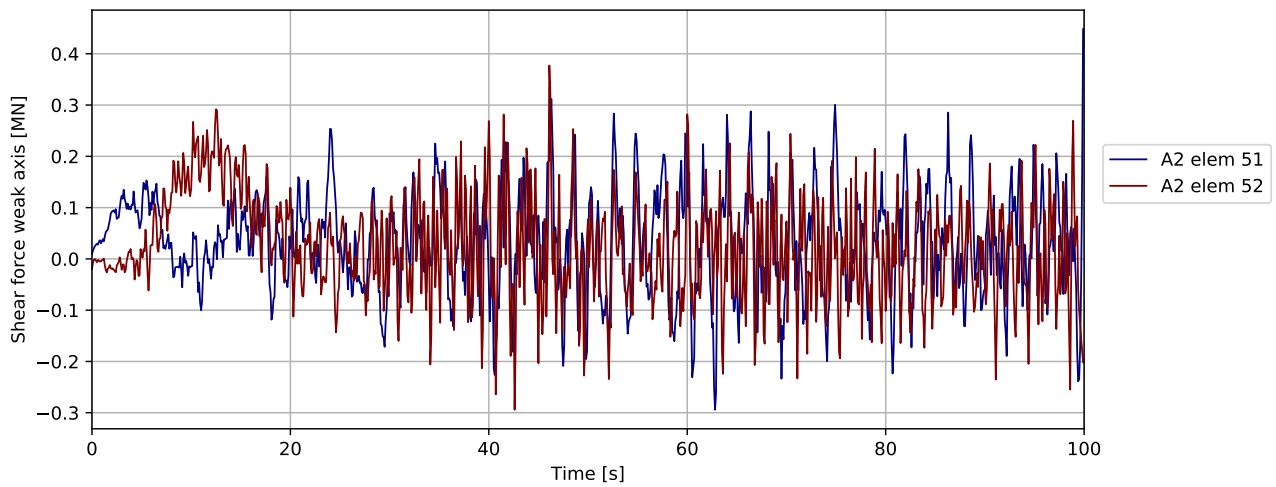


Figure 4.538: DH A7-A8 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

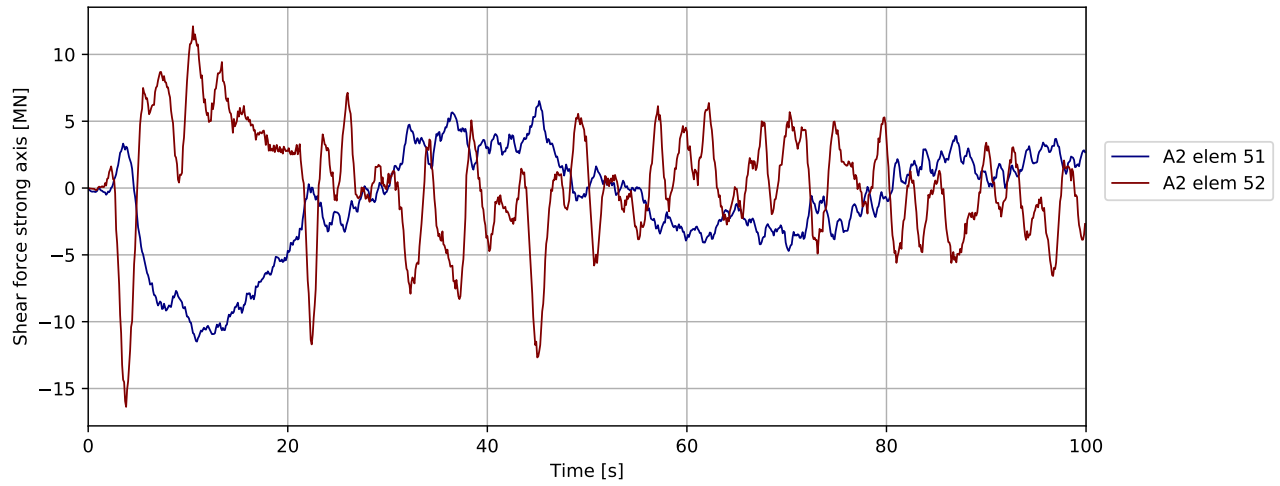


Figure 4.539: DH A7-A8 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

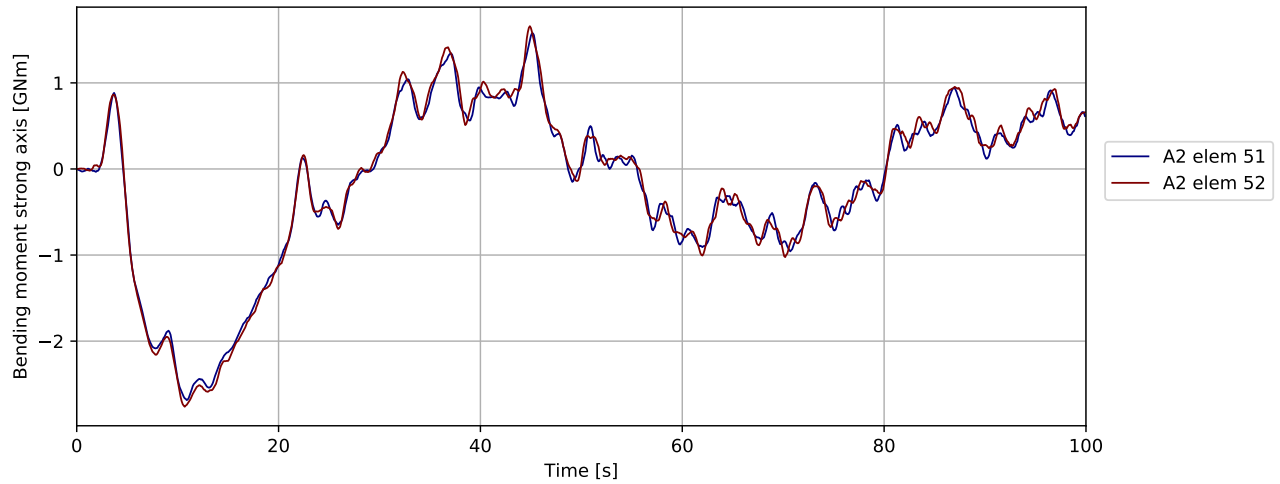


Figure 4.540: DH A7-A8 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

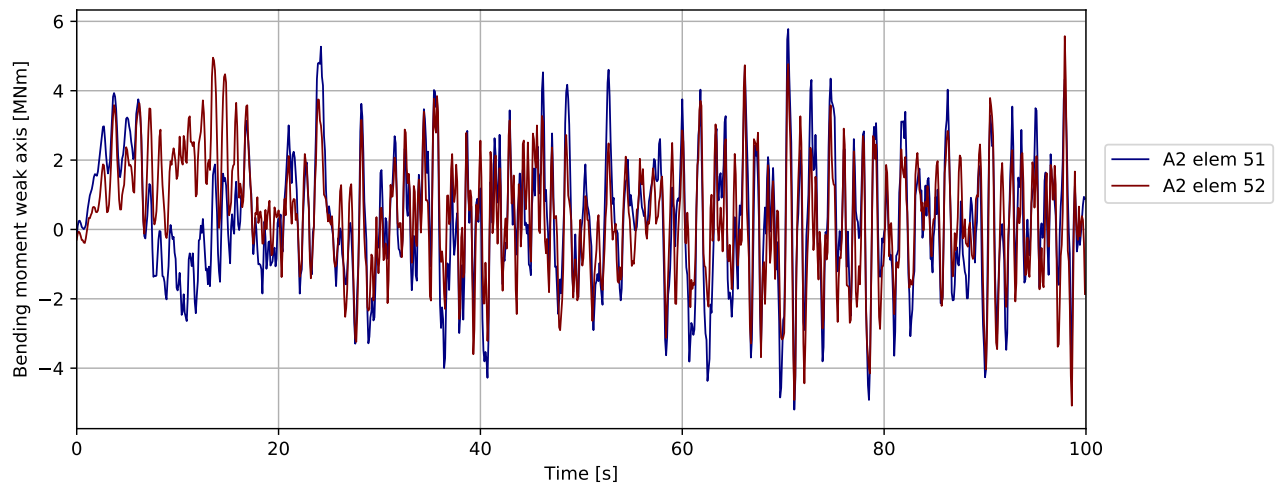


Figure 4.541: DH A7-A8 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

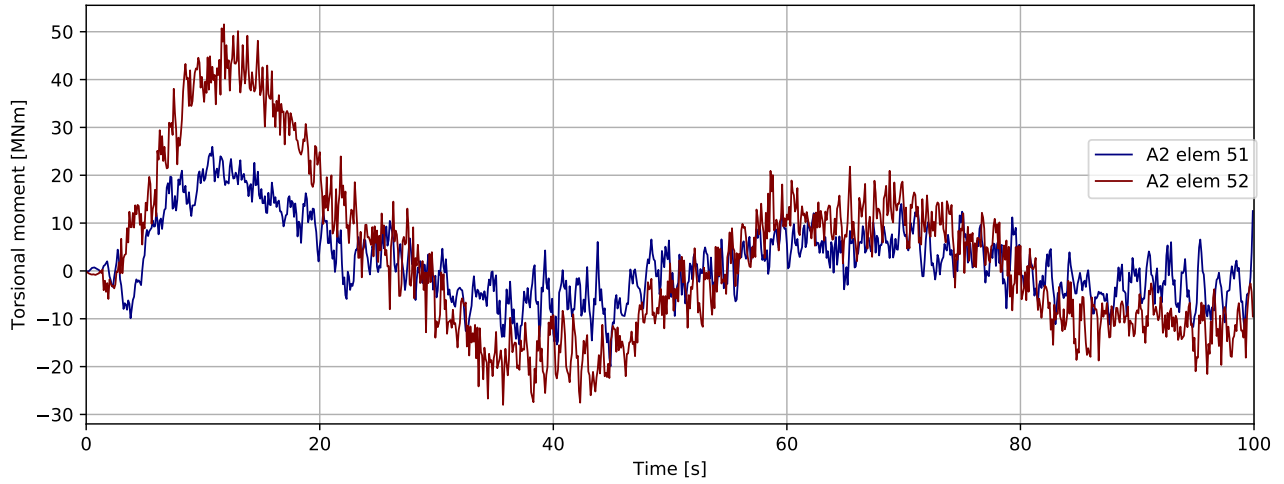


Figure 4.542: DH A7-A8 180deg - bridgegirder @ pylon: Torsional moment [MNm]

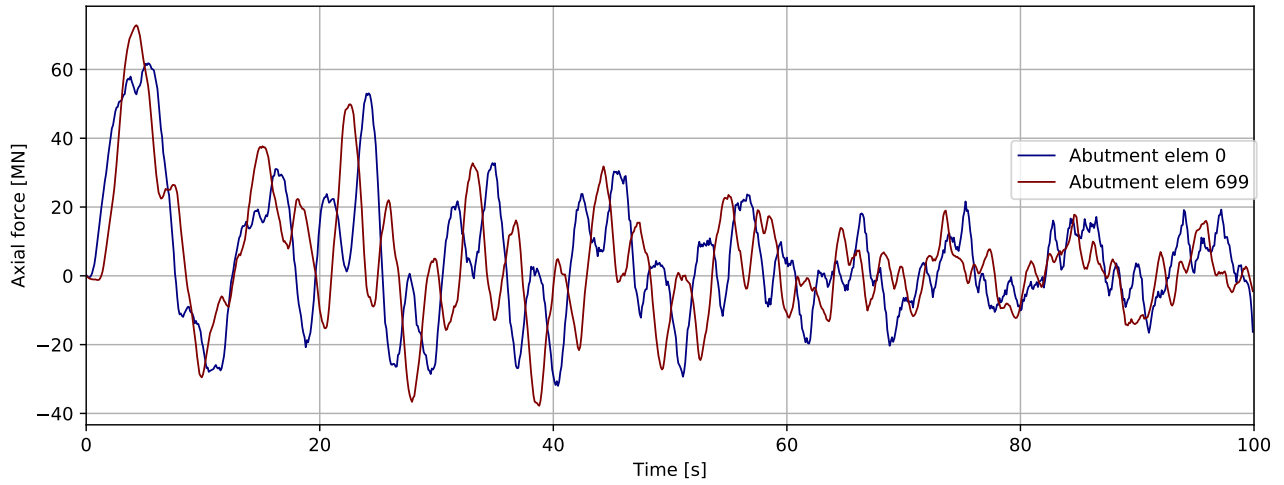


Figure 4.543: DH A7-A8 180deg - bridgegirder @abutments: Axial force [MN]

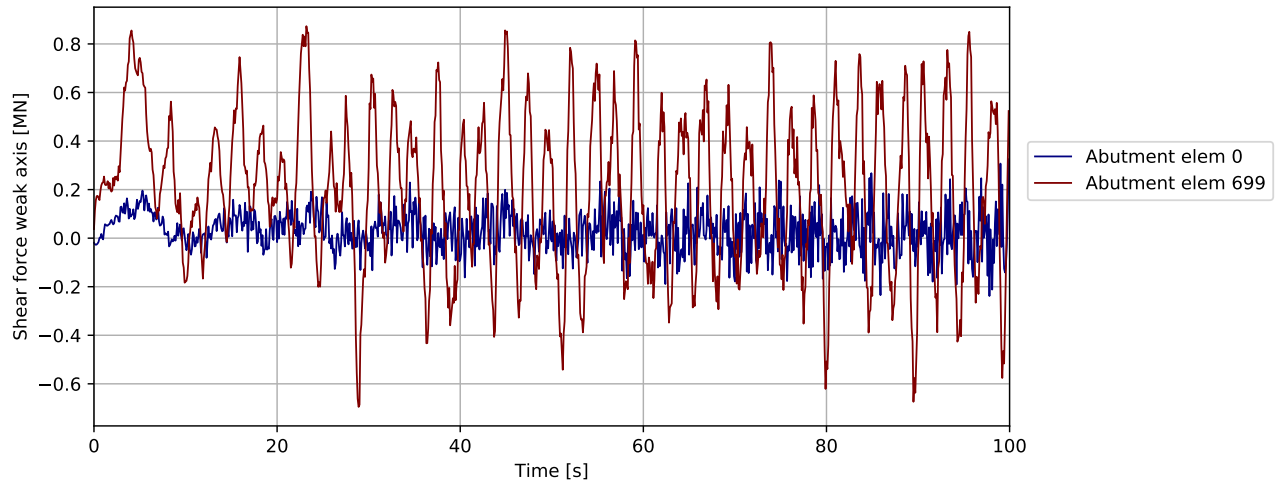


Figure 4.544: DH A7-A8 180deg - bridgegirder @abutments: Shear force weak axis [MN]

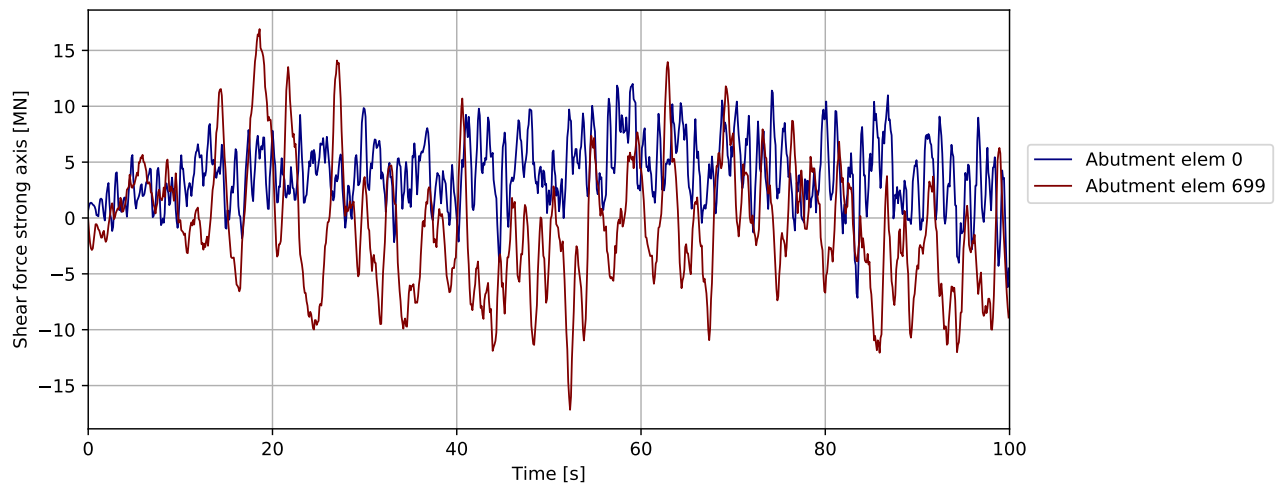


Figure 4.545: DH A7-A8 180deg - bridgegirder @abutments: Shear force strong axis [MN]

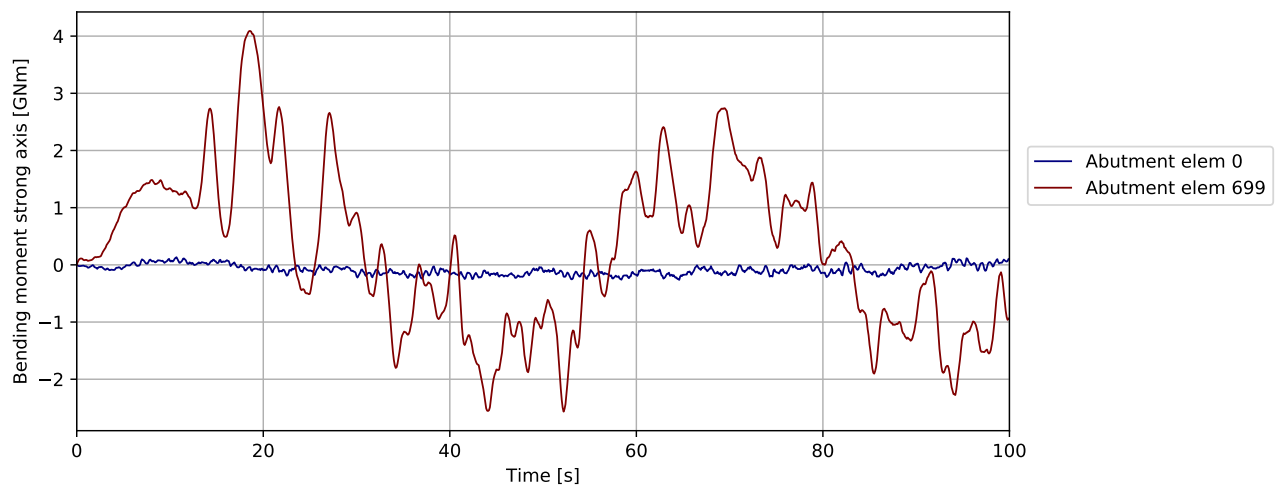


Figure 4.546: DH A7-A8 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

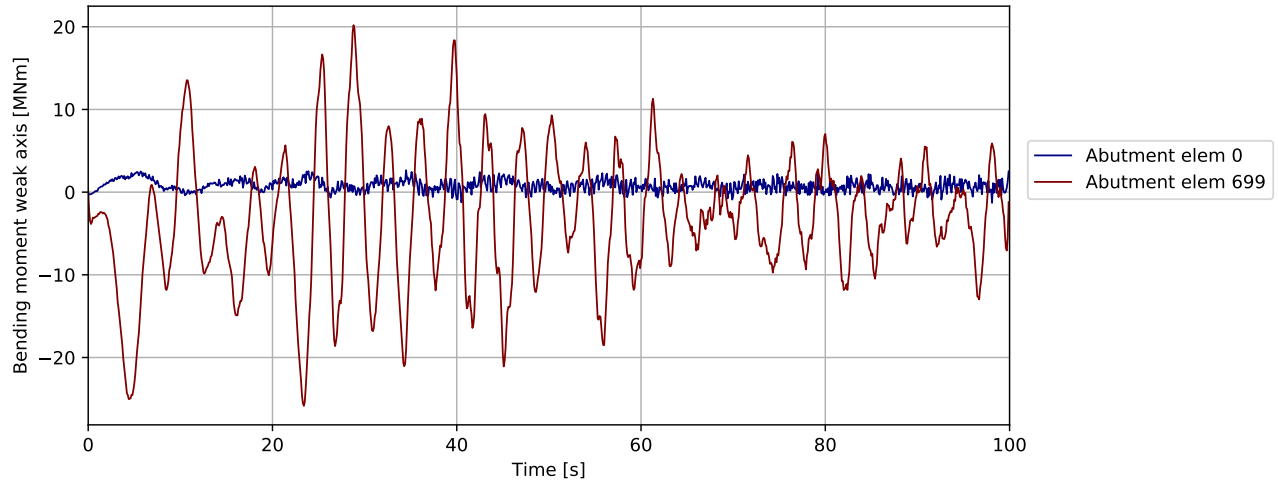


Figure 4.547: DH A7-A8 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

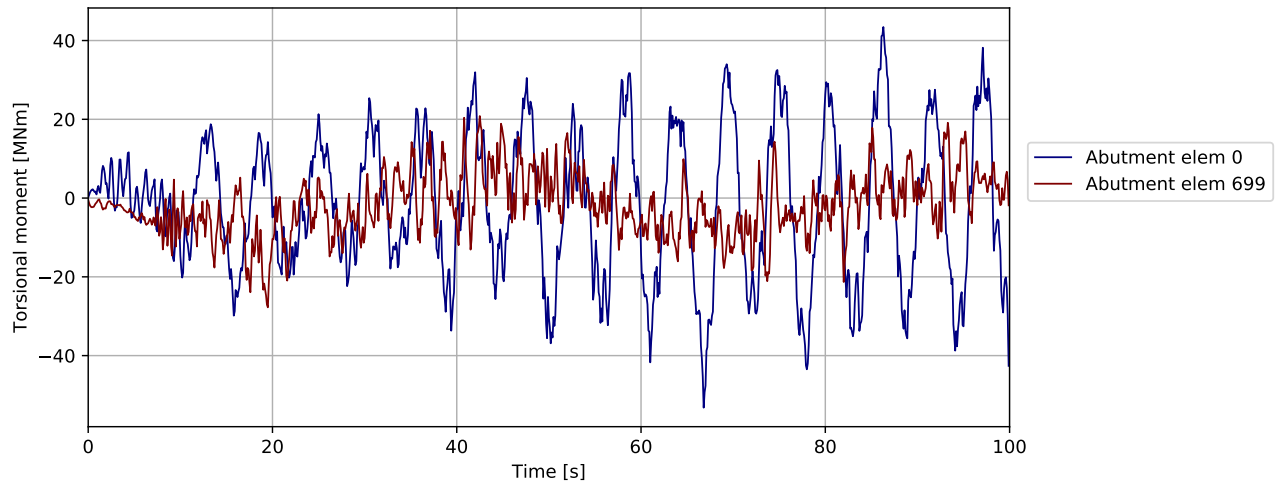


Figure 4.548: DH A7-A8 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

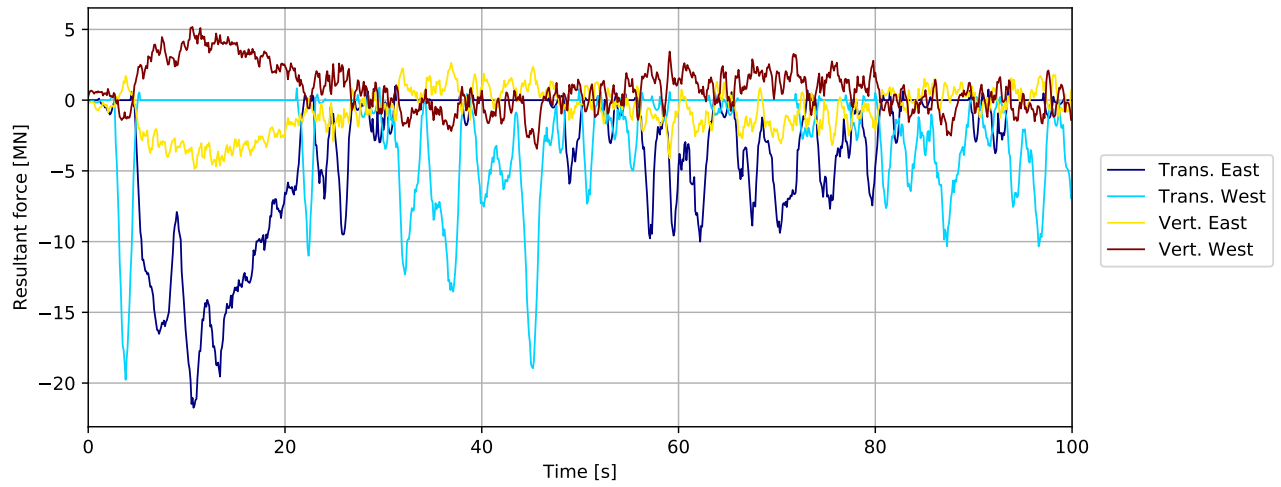


Figure 4.549: DH A7-A8 180deg - bridgegirder supports in tower: Resultant force [MN]

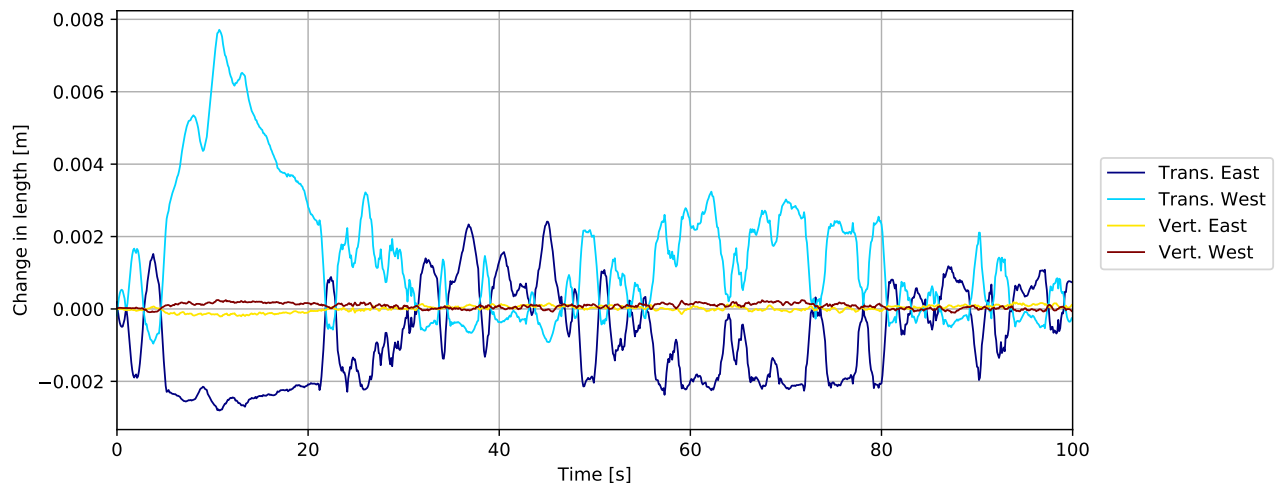


Figure 4.550: DH A7-A8 180deg - bridgegirder supports in tower: Change in length [m]

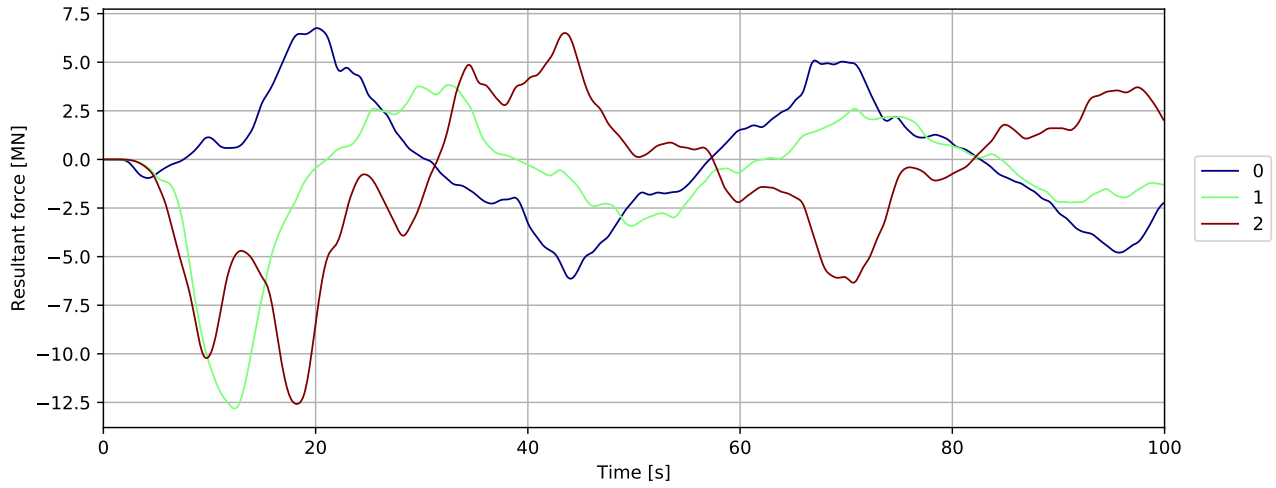


Figure 4.551: Mooring force

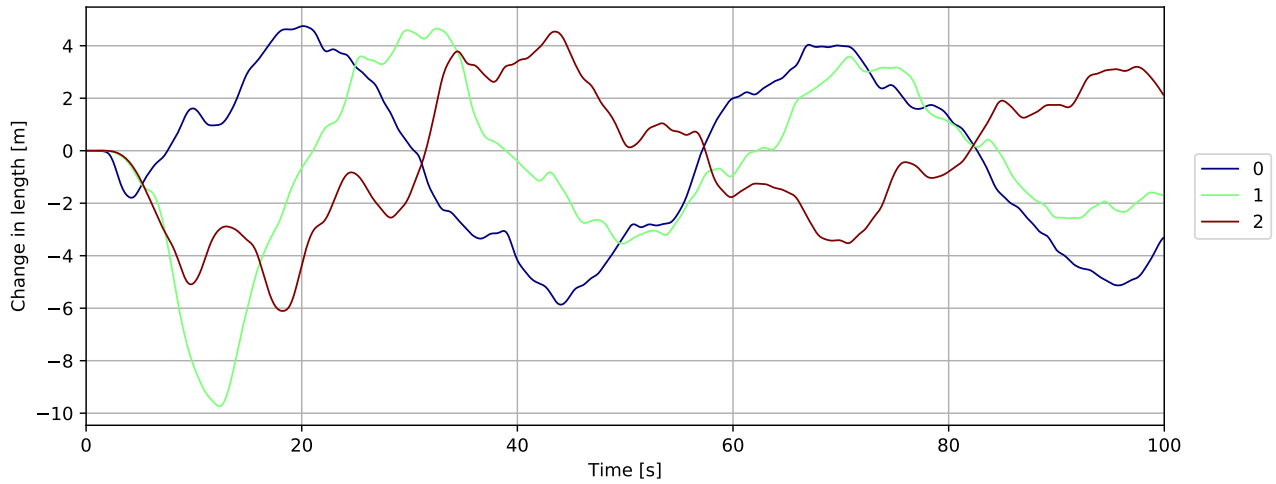


Figure 4.552: Mooring displacement

4.13 Deck house A8-A9 180deg

4.13.1 Overall response

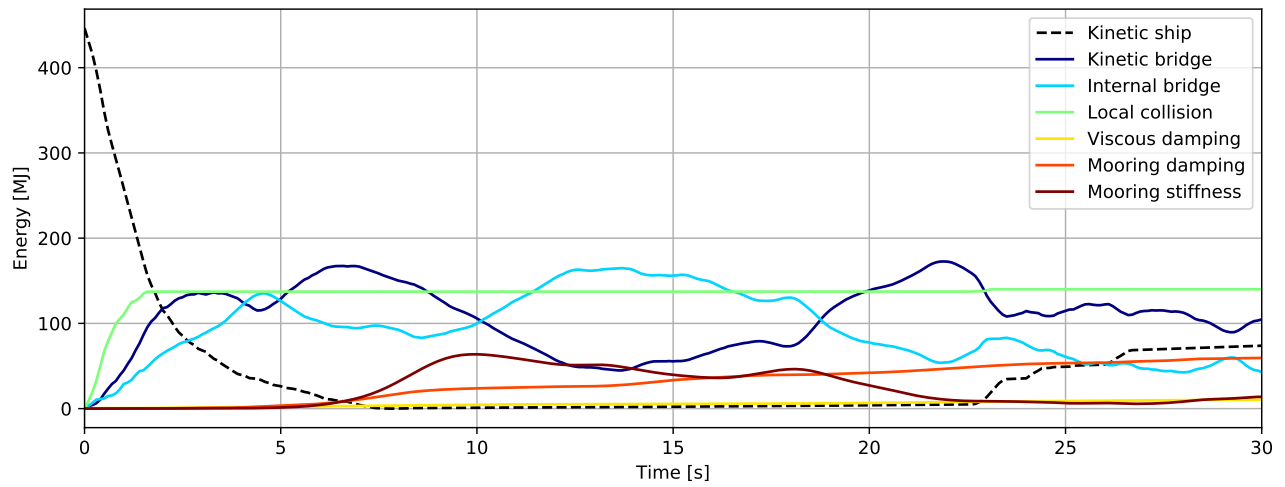


Figure 4.553: Energy [MJ] - initial phase

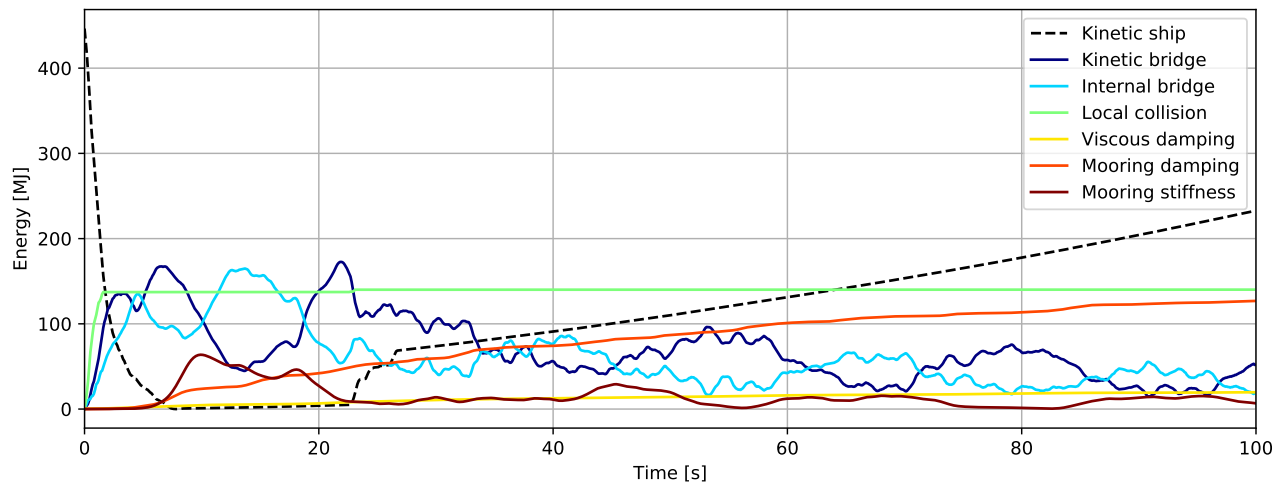


Figure 4.554: Energy [MJ]

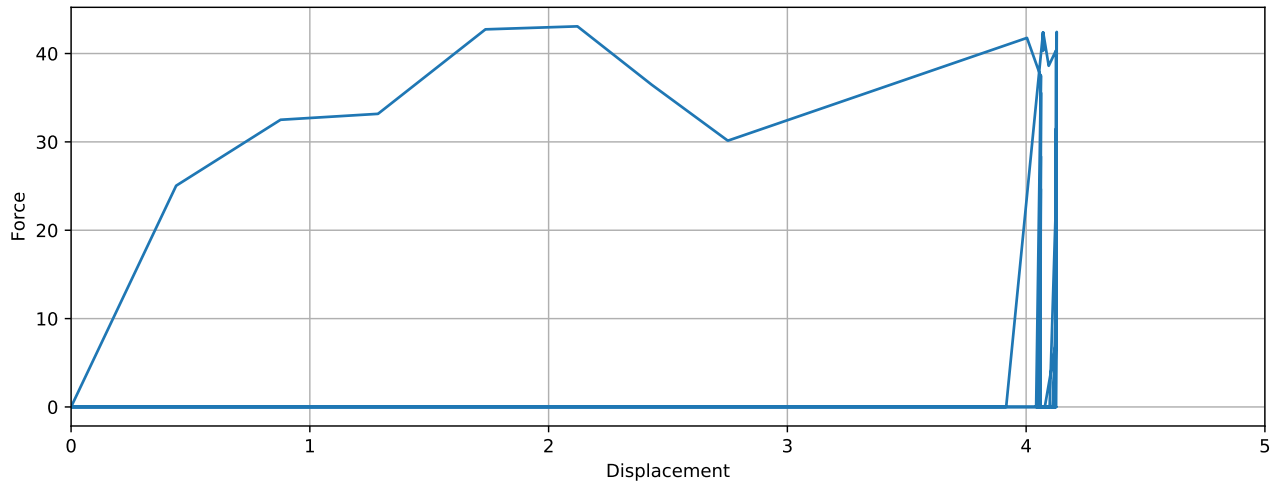


Figure 4.555: Simulated local collision force-displacement

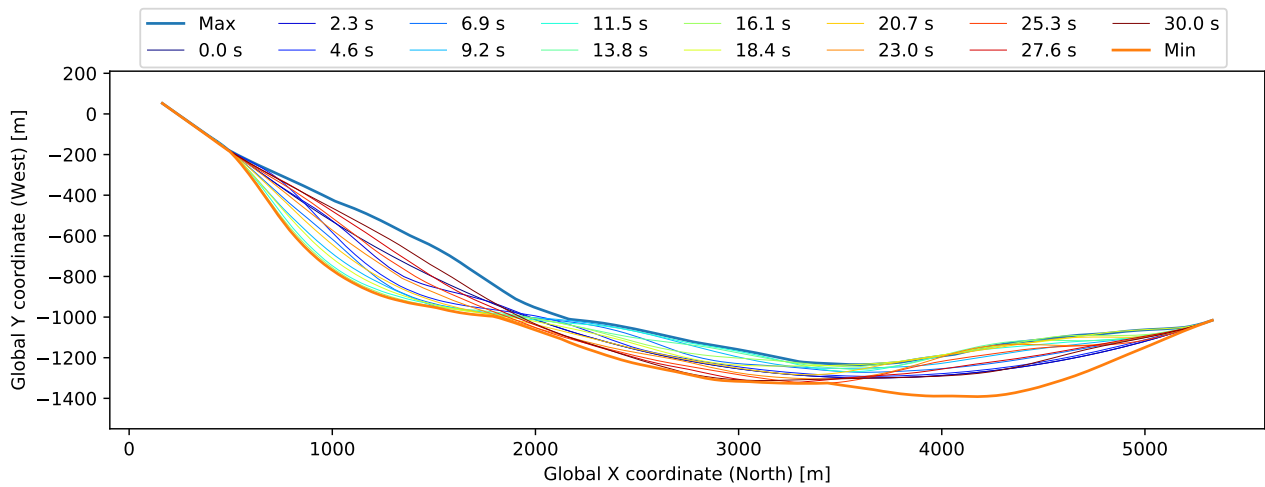


Figure 4.556: Bridgegirder deflection (10x displacement scaling)

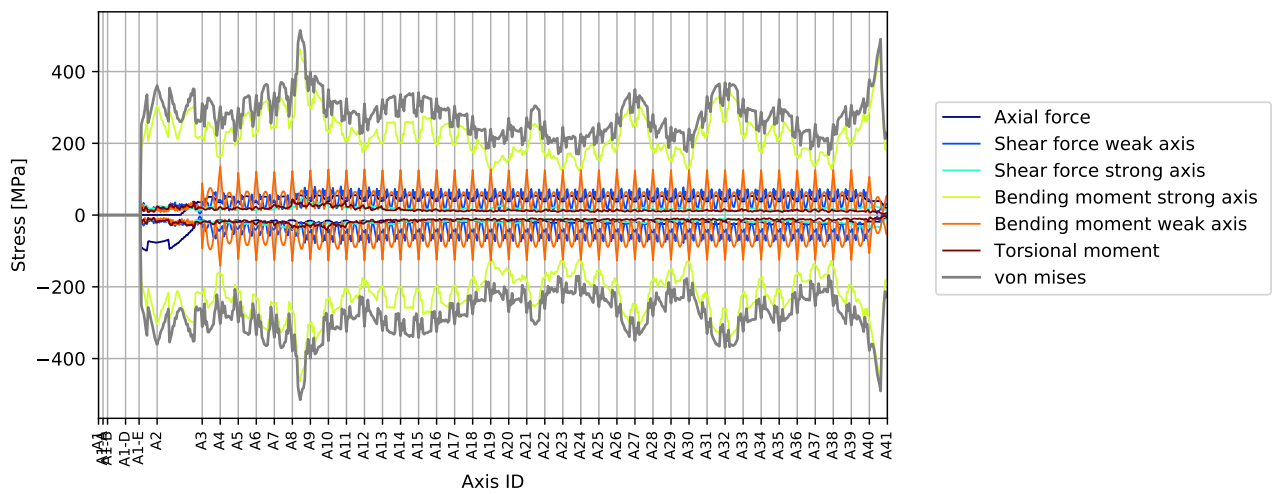


Figure 4.557: Stress envelope from all force components

4.13.2 Envelope plots

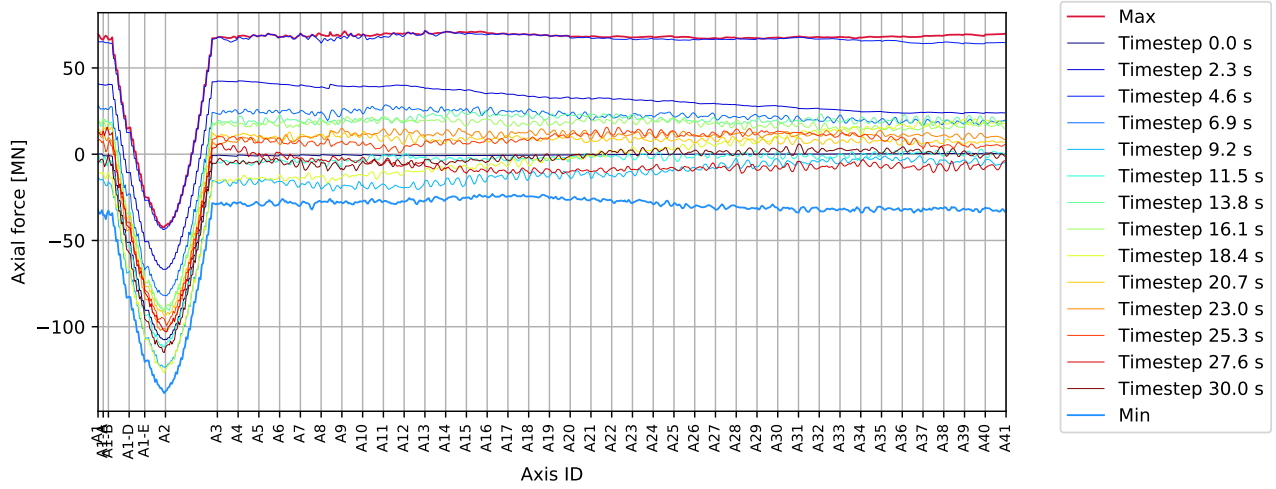


Figure 4.558: DH A8-A9 180deg - bridgегirder : Axial force [MN]

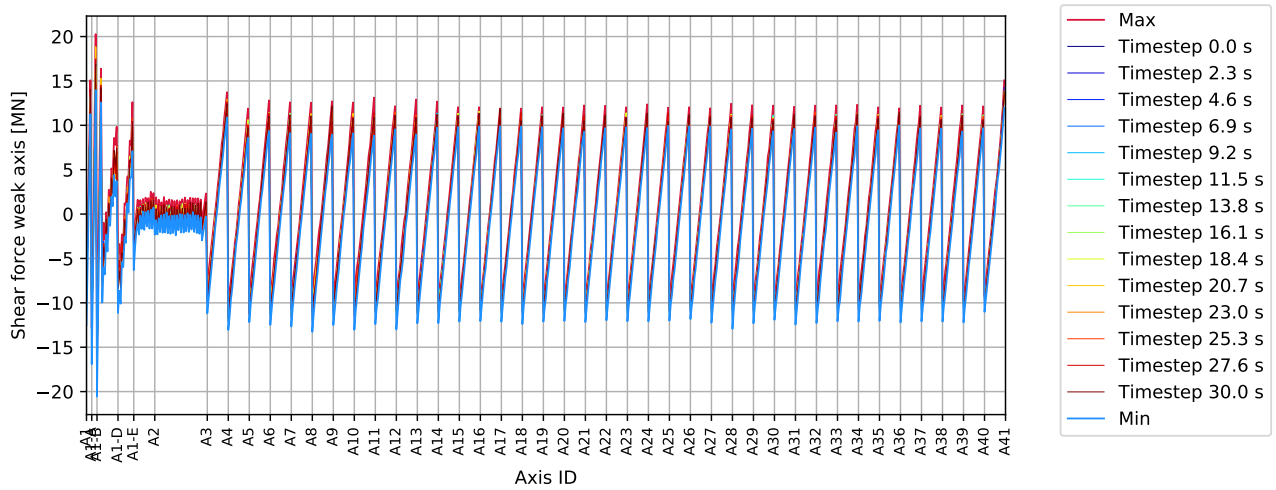


Figure 4.559: DH A8-A9 180deg - bridgегirder : Shear force weak axis [MN]

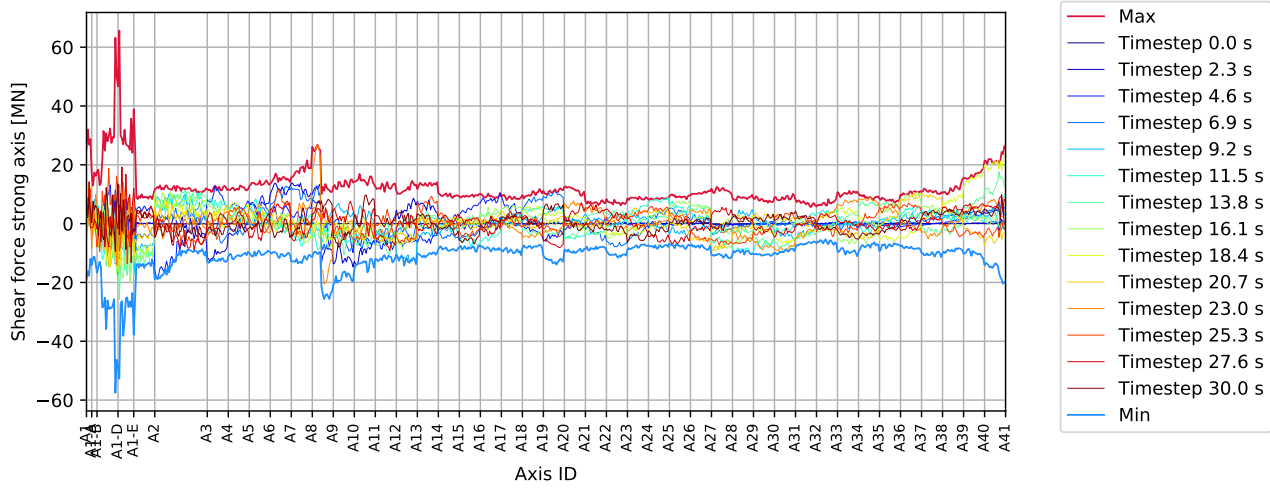


Figure 4.560: DH A8-A9 180deg - bridgegirder : Shear force strong axis [MN]

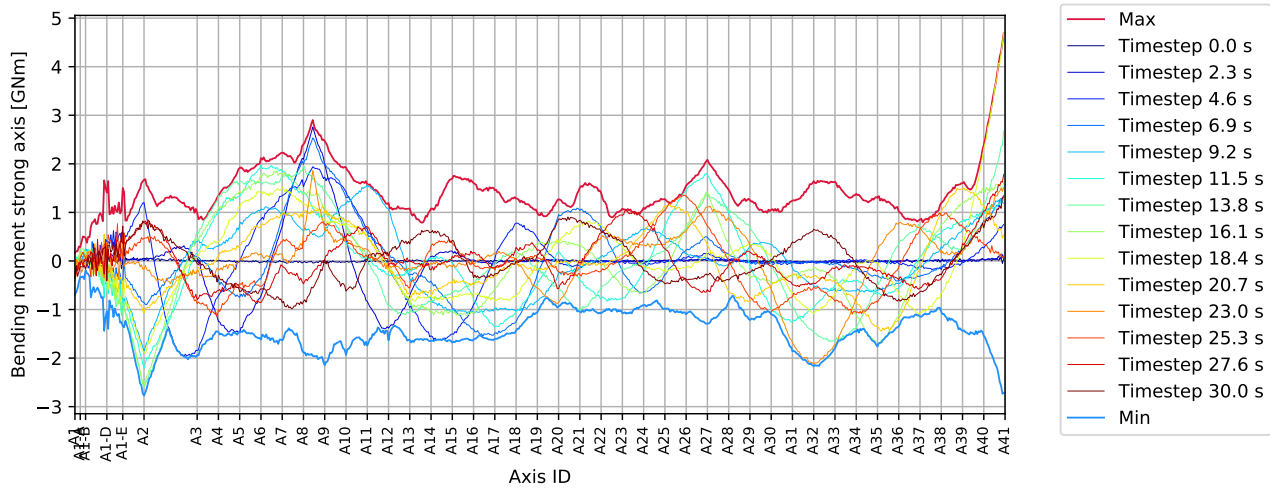


Figure 4.561: DH A8-A9 180deg - bridgegirder : Bending moment strong axis [GNm]

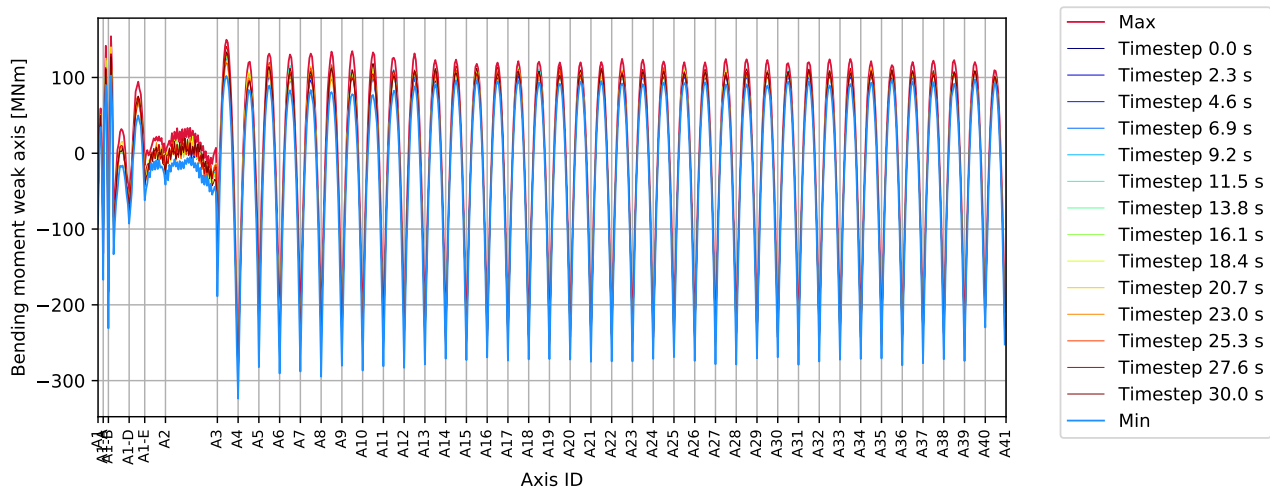


Figure 4.562: DH A8-A9 180deg - bridgegirder : Bending moment weak axis [MNm]

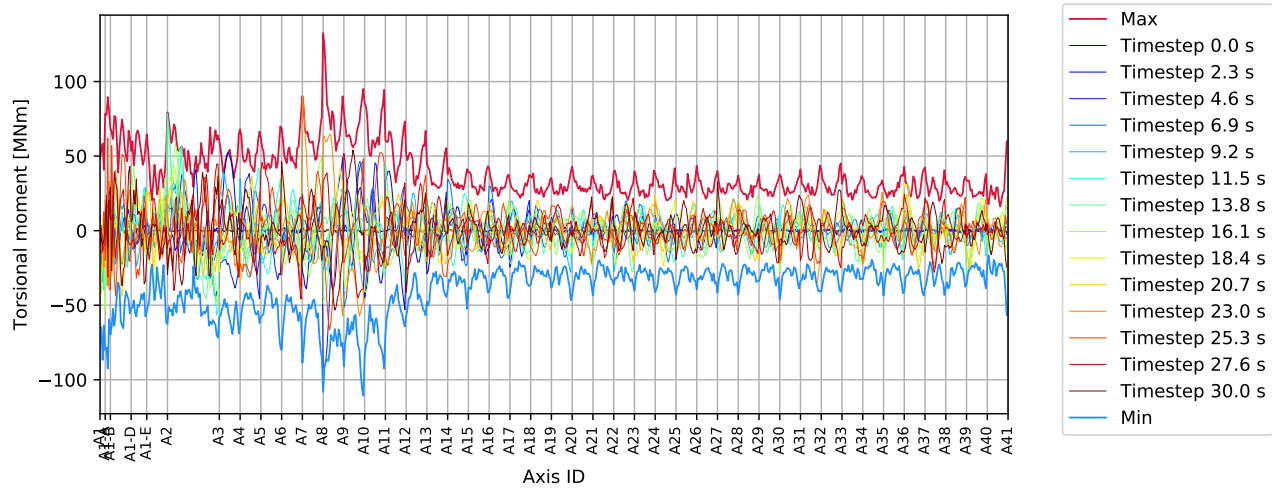


Figure 4.563: DH A8-A9 180deg - bridgegirder : Torsional moment [MNm]

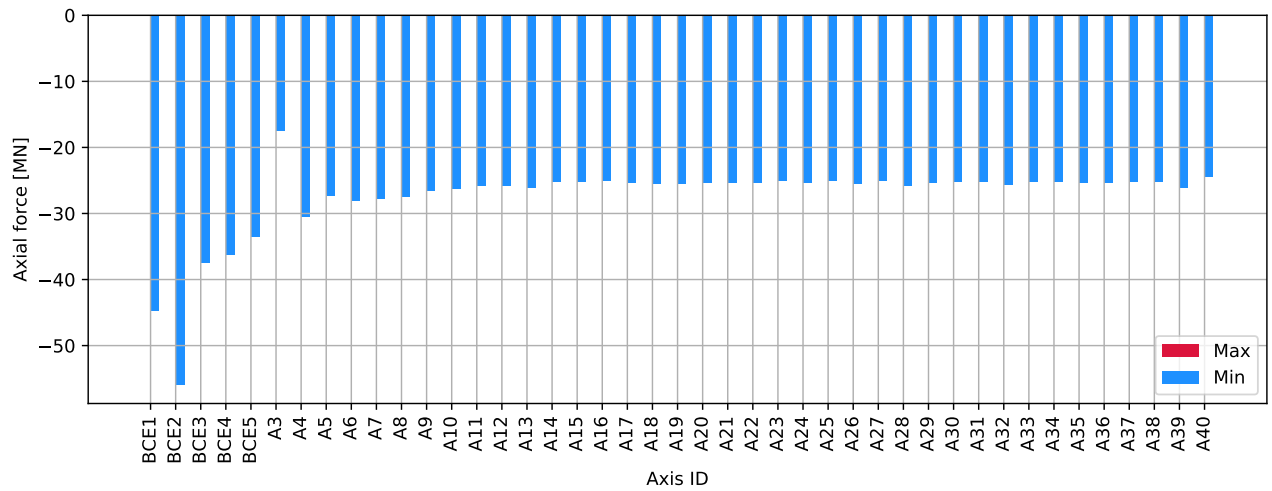


Figure 4.564: DH A8-A9 180deg - columns bottom : Axial force [MN]

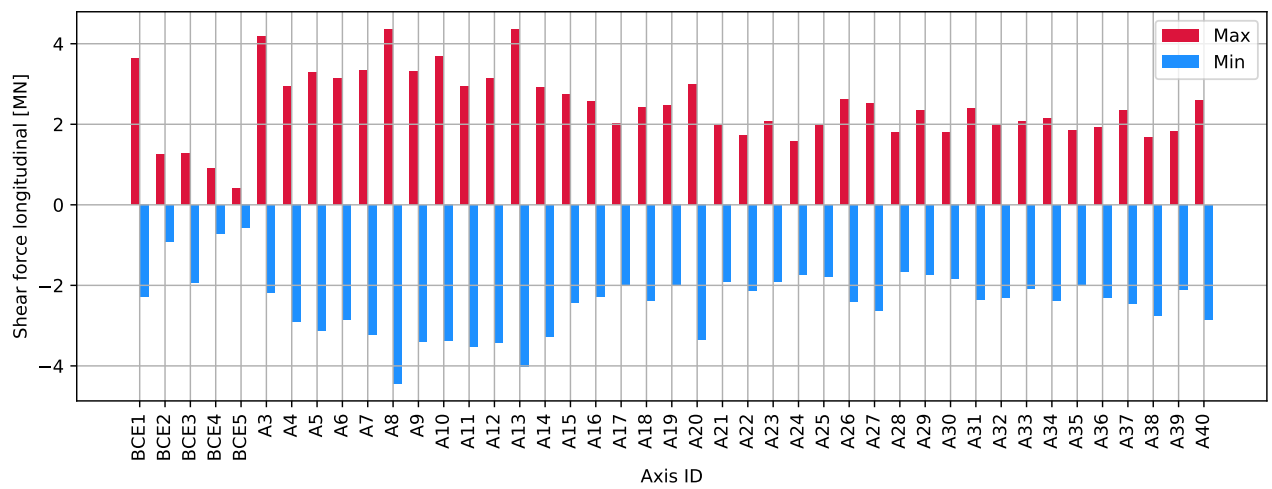


Figure 4.565: DH A8-A9 180deg - columns bottom : Shear force longitudinal [MN]

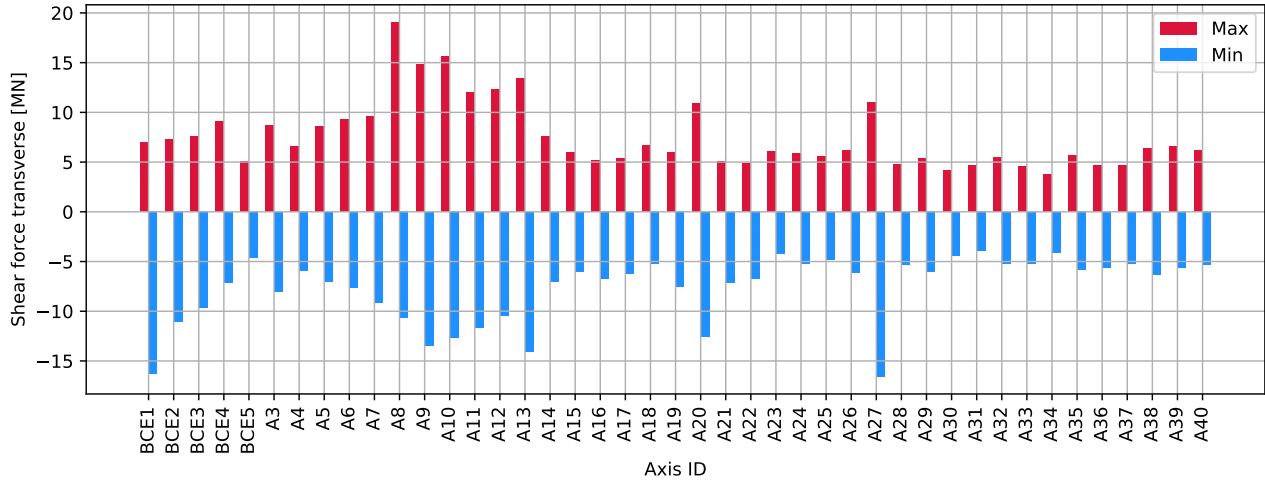


Figure 4.566: DH A8-A9 180deg - columns bottom : Shear force transverse [MN]

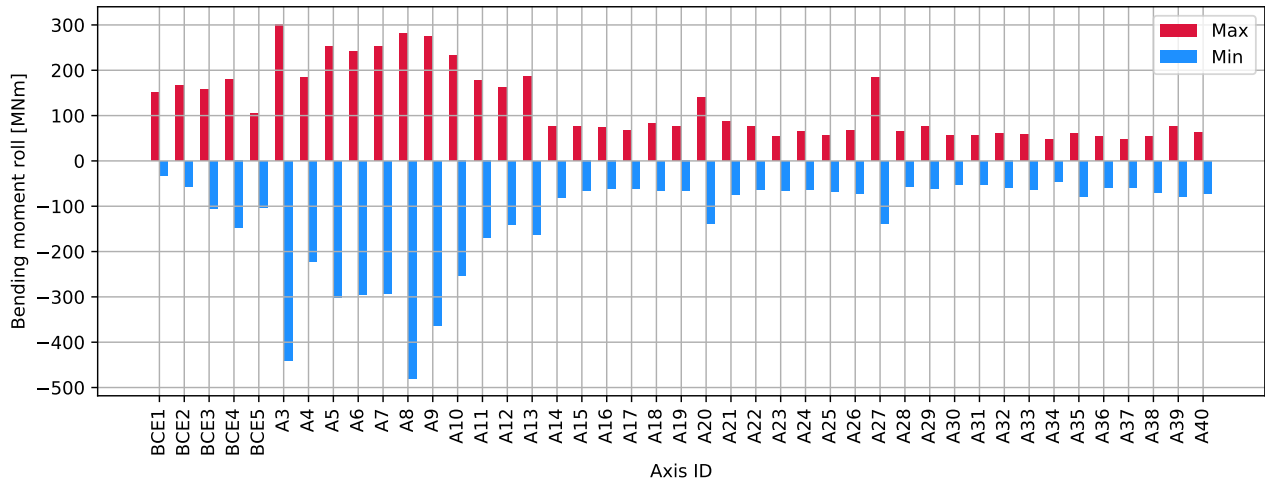


Figure 4.567: DH A8-A9 180deg - columns bottom : Bending moment roll [MNm]

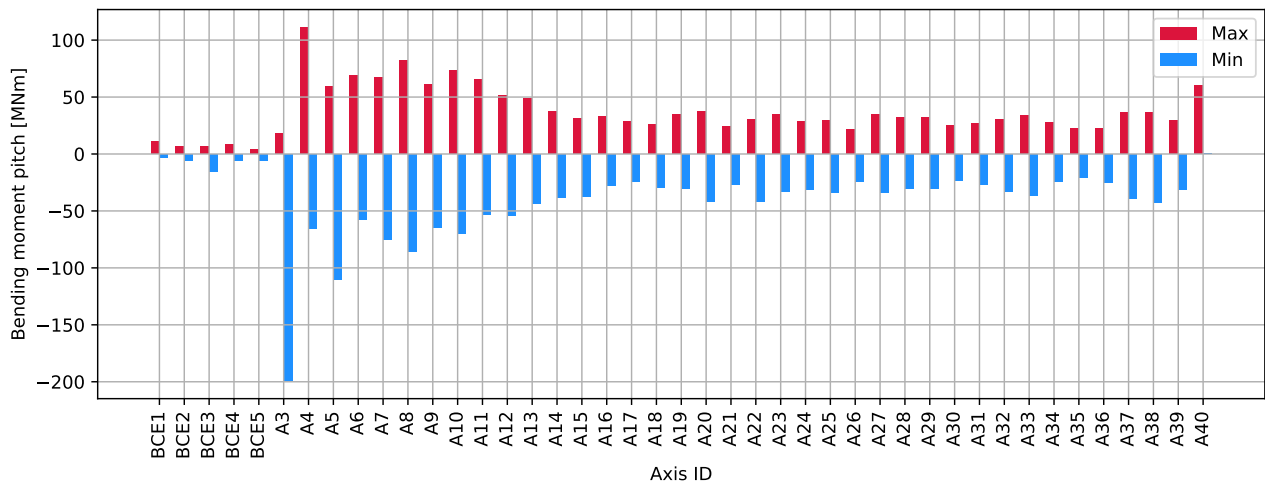


Figure 4.568: DH A8-A9 180deg - columns bottom : Bending moment pitch [MNm]

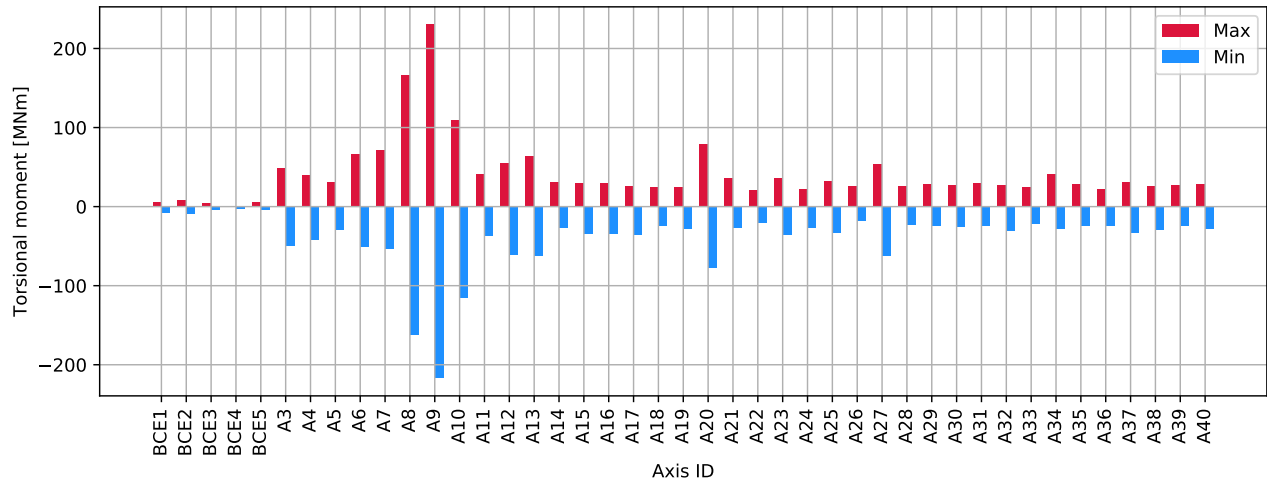


Figure 4.569: DH A8-A9 180deg - columns bottom : Torsional moment [MNm]

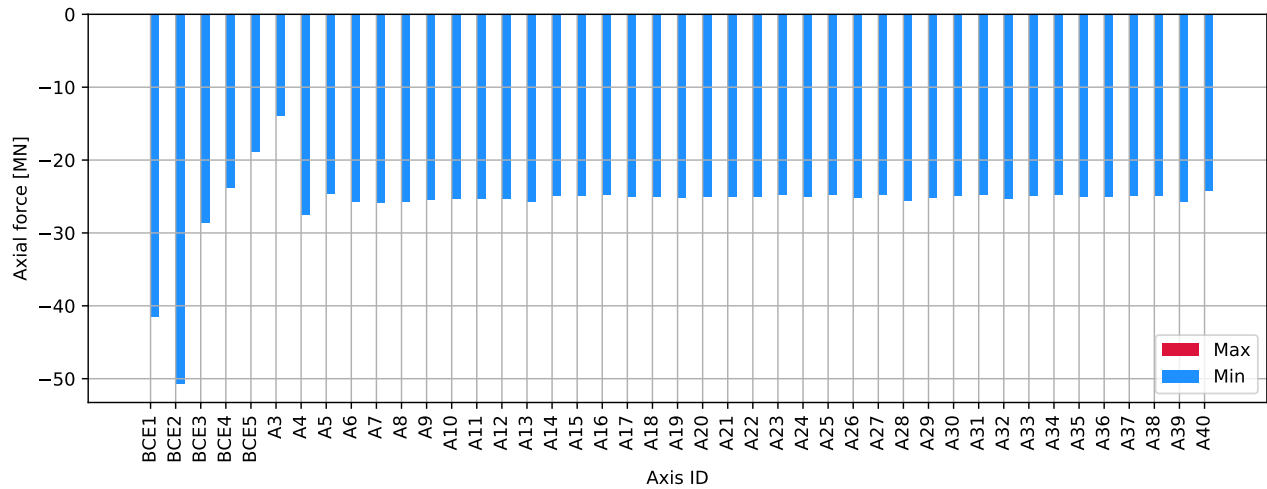


Figure 4.570: DH A8-A9 180deg - columns top : Axial force [MN]

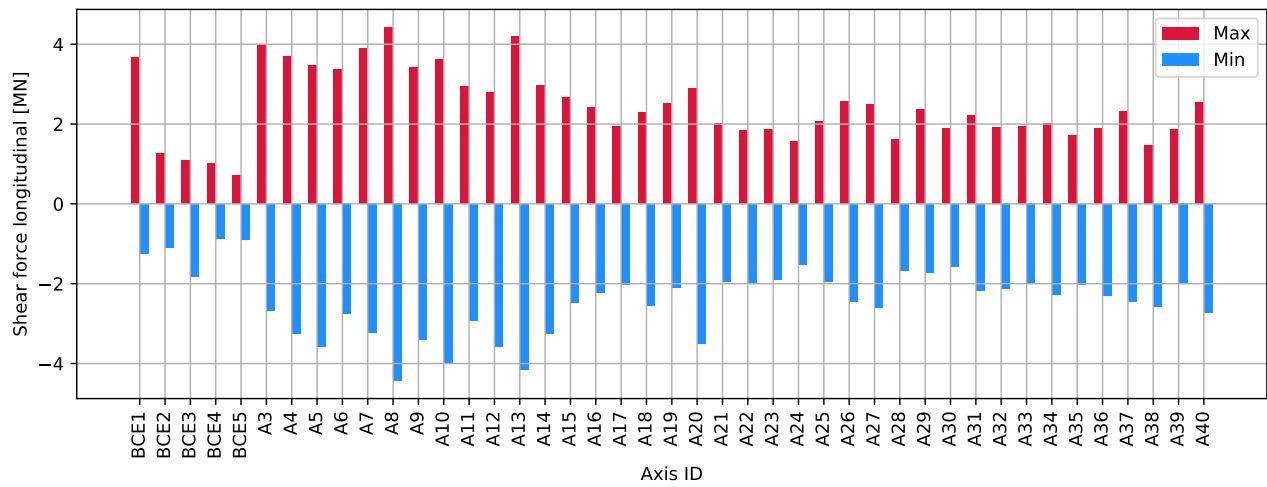


Figure 4.571: DH A8-A9 180deg - columns top : Shear force longitudinal [MN]

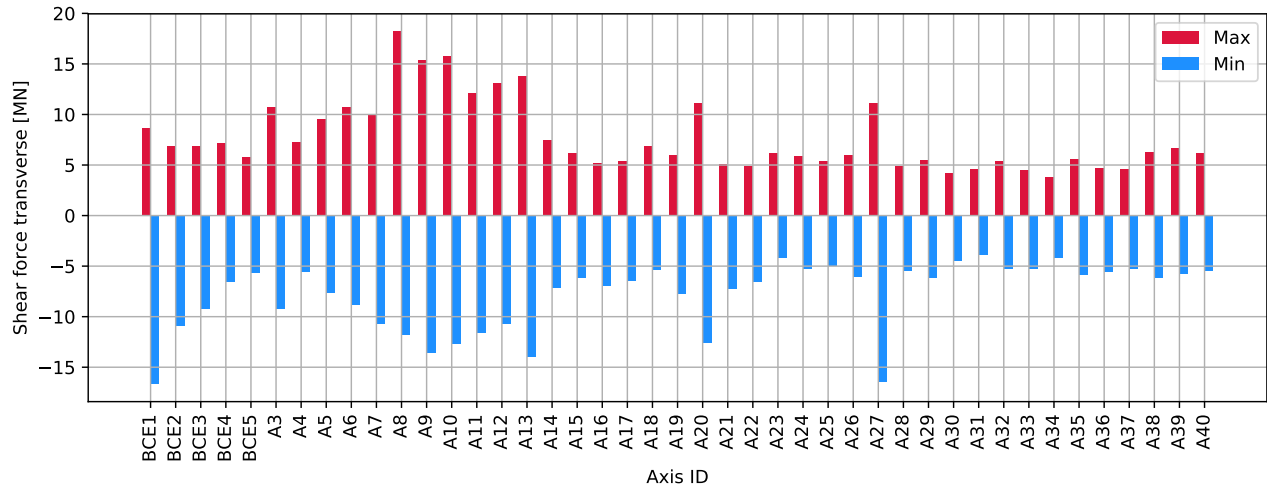


Figure 4.572: DH A8-A9 180deg - columns top : Shear force transverse [MN]

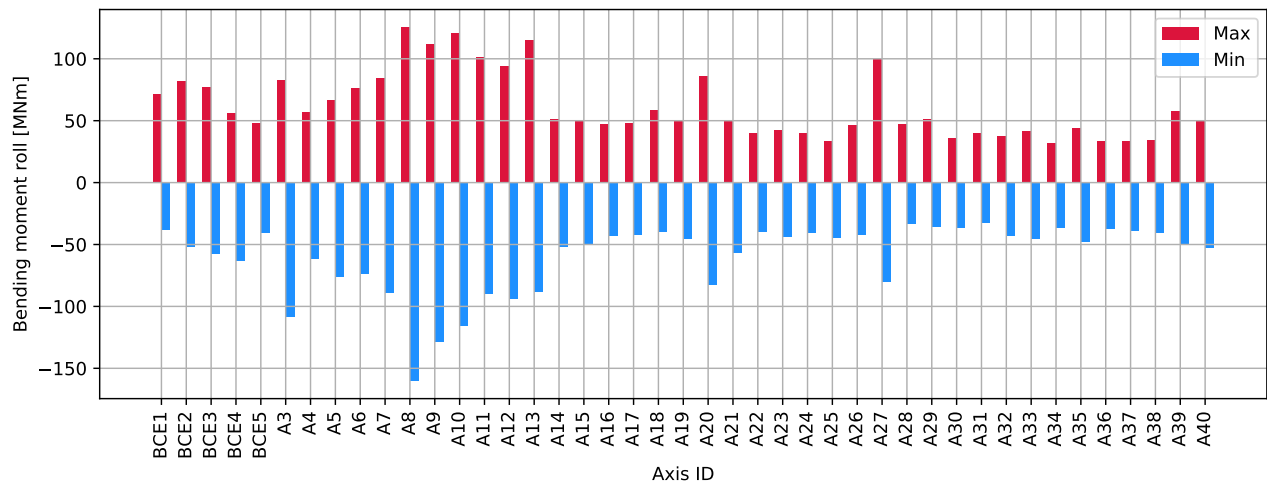


Figure 4.573: DH A8-A9 180deg - columns top : Bending moment roll [MNm]

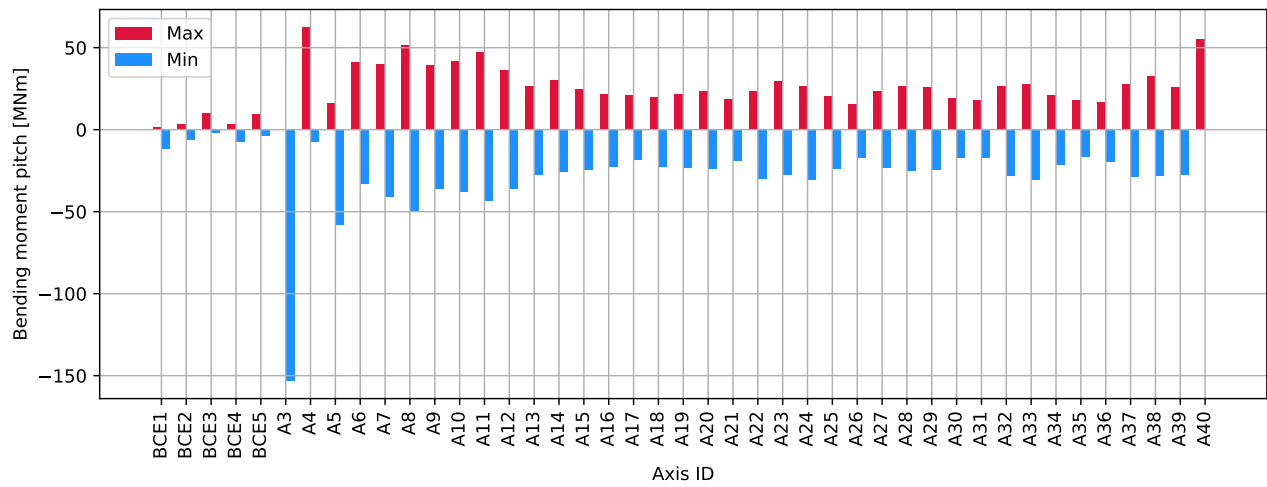


Figure 4.574: DH A8-A9 180deg - columns top : Bending moment pitch [MNm]

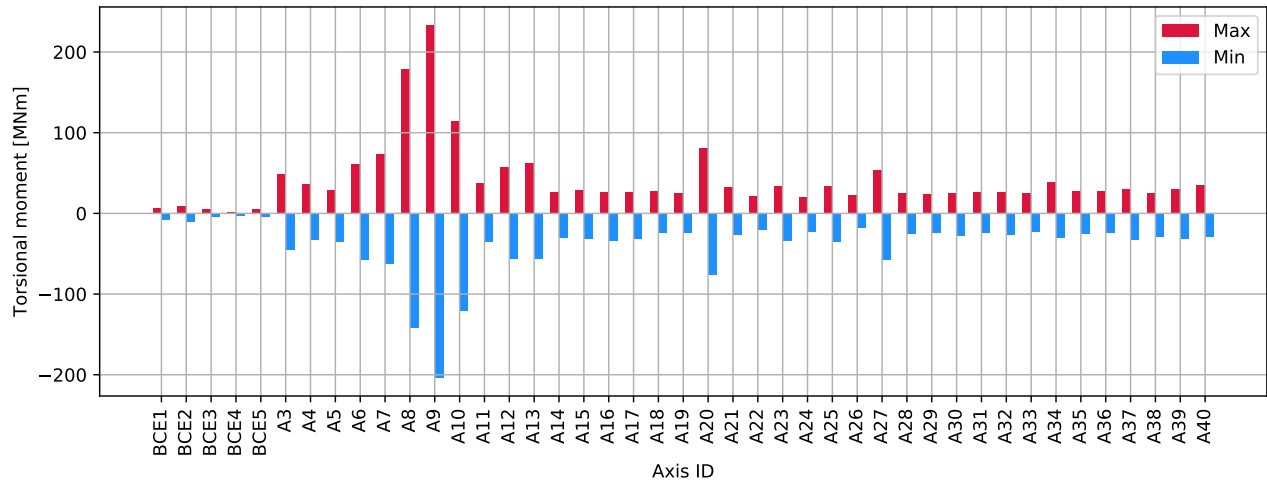


Figure 4.575: DH A8-A9 180deg - columns top : Torsional moment [MNm]

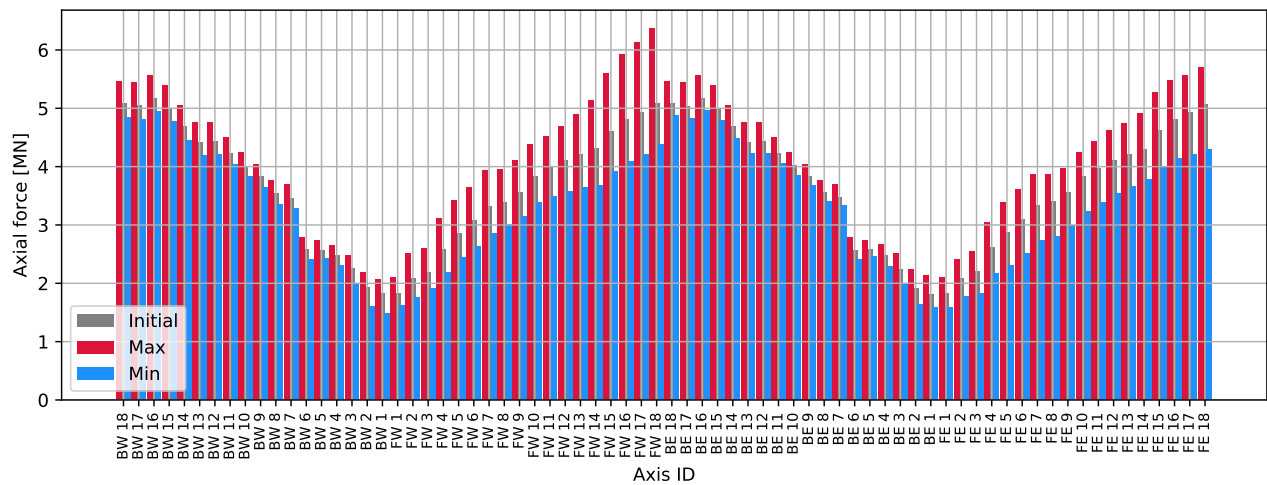


Figure 4.576: DH A8-A9 180deg - cables : Axial force [MN]

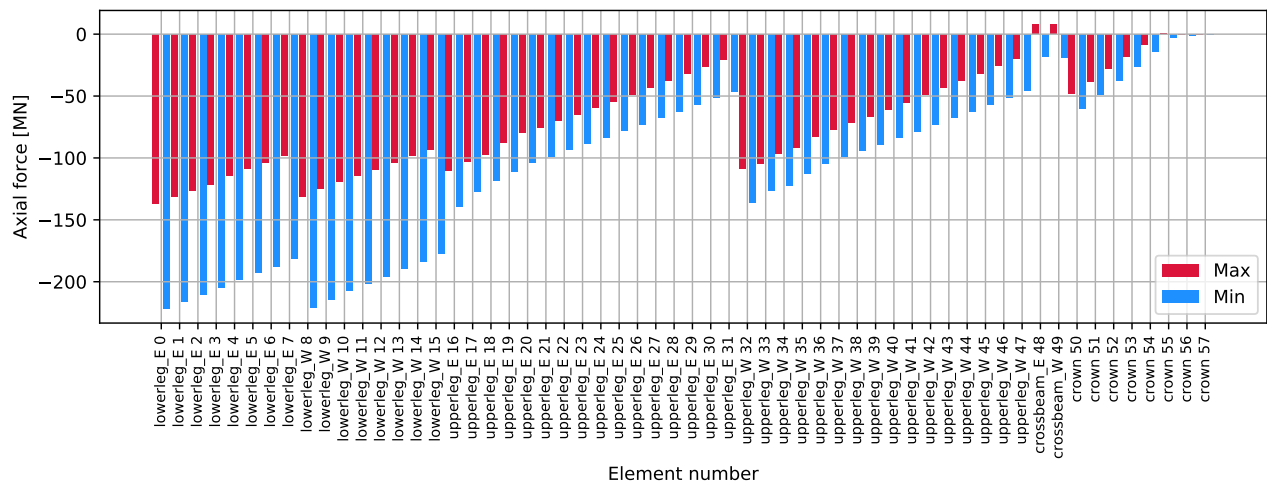


Figure 4.577: DH A8-A9 180deg - tower: Axial force [MN]

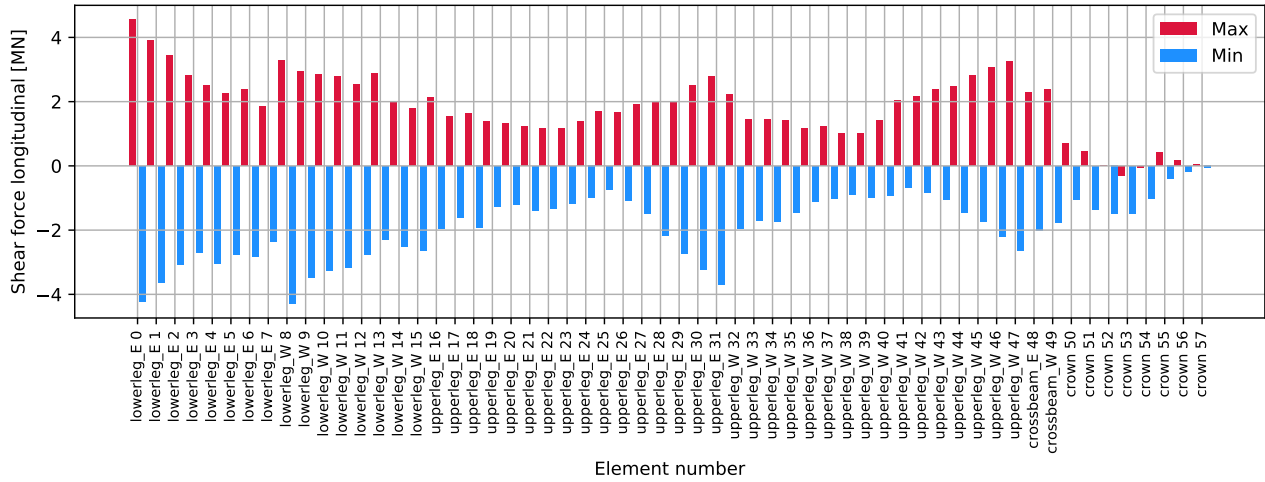


Figure 4.578: DH A8-A9 180deg - tower: Shear force longitudinal [MN]

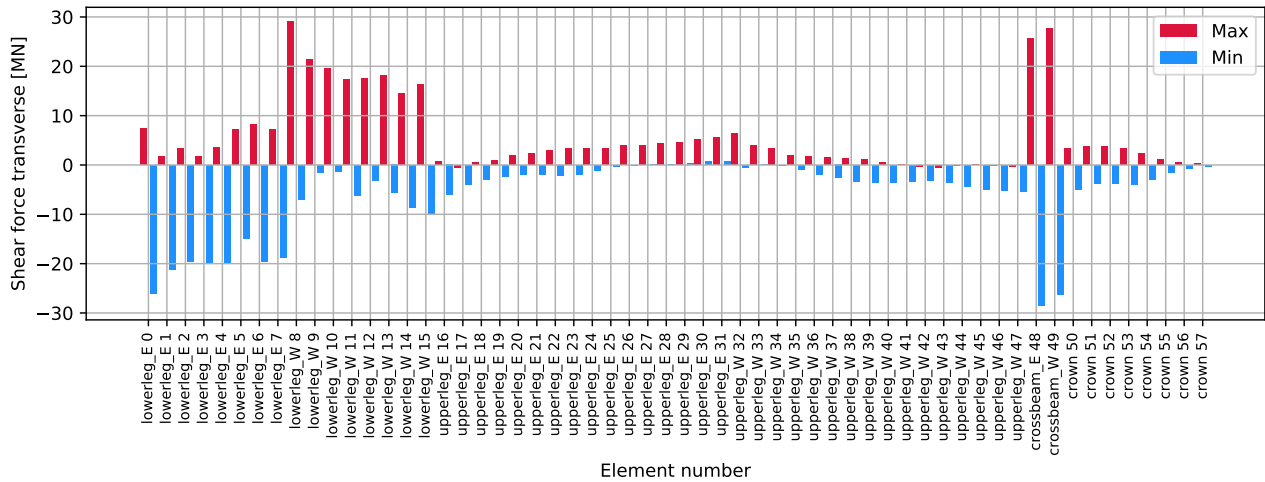


Figure 4.579: DH A8-A9 180deg - tower: Shear force transverse [MN]

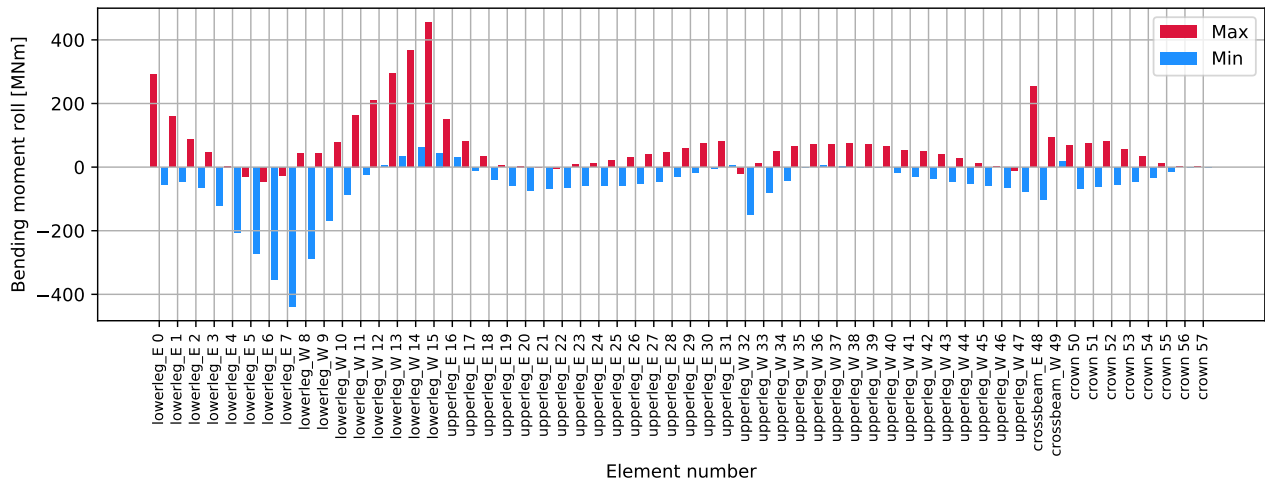


Figure 4.580: DH A8-A9 180deg - tower: Bending moment roll [MNm]

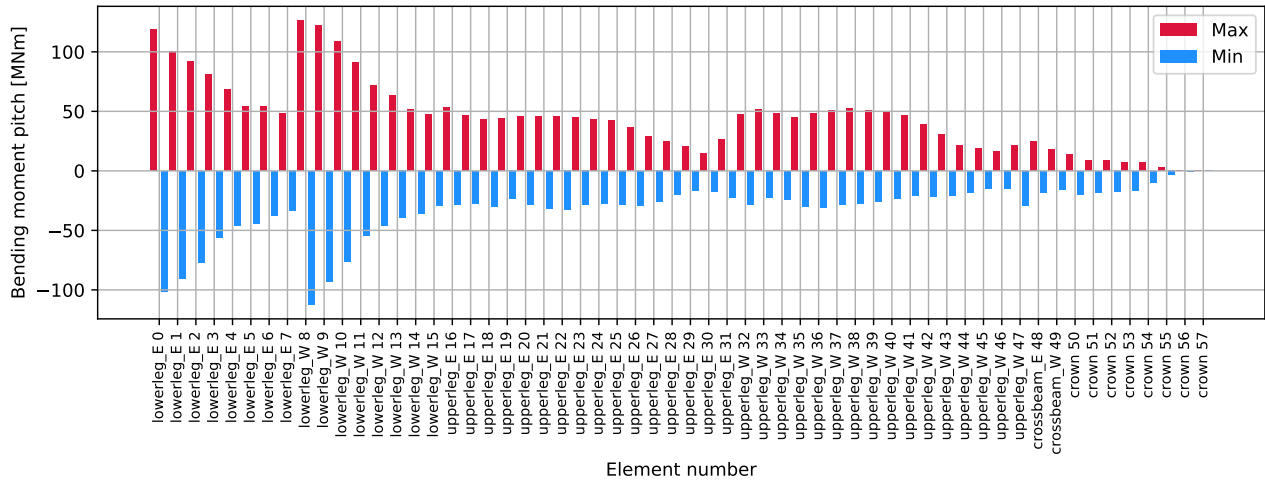


Figure 4.581: DH A8-A9 180deg - tower: Bending moment pitch [MNm]

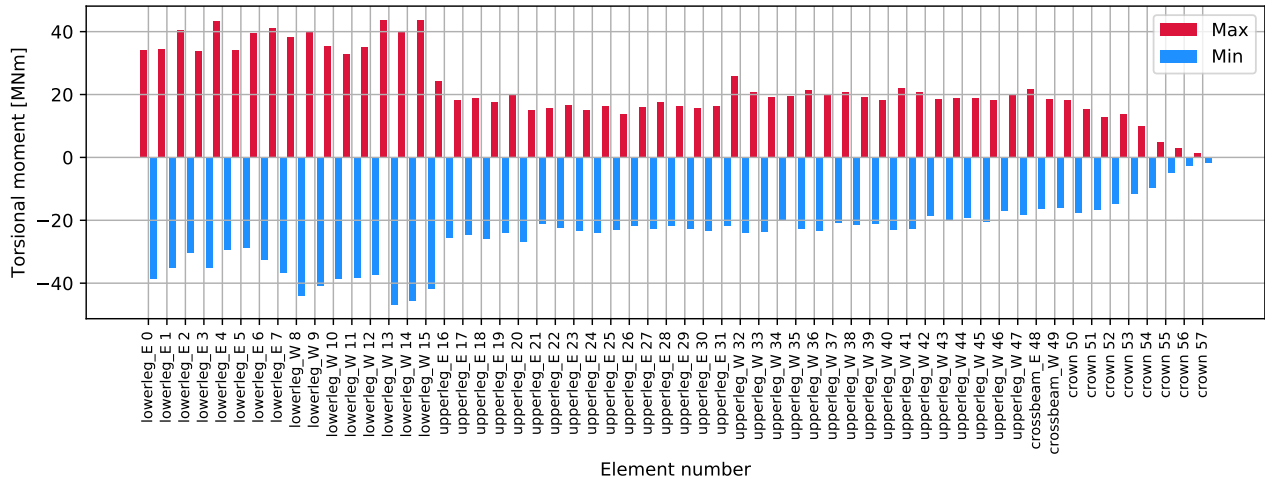


Figure 4.582: DH A8-A9 180deg - tower: Torsional moment [MNm]

4.13.3 Time series

Note : Time series are filtered using a Savitzky-Golay filter for increased readability of the time history plots. Hence, maximum values that occur due to a rapid vibration are not shown in the plots. For maximum values, refer to the tabulated data.

All elements are numbered from South to North, bottom to top

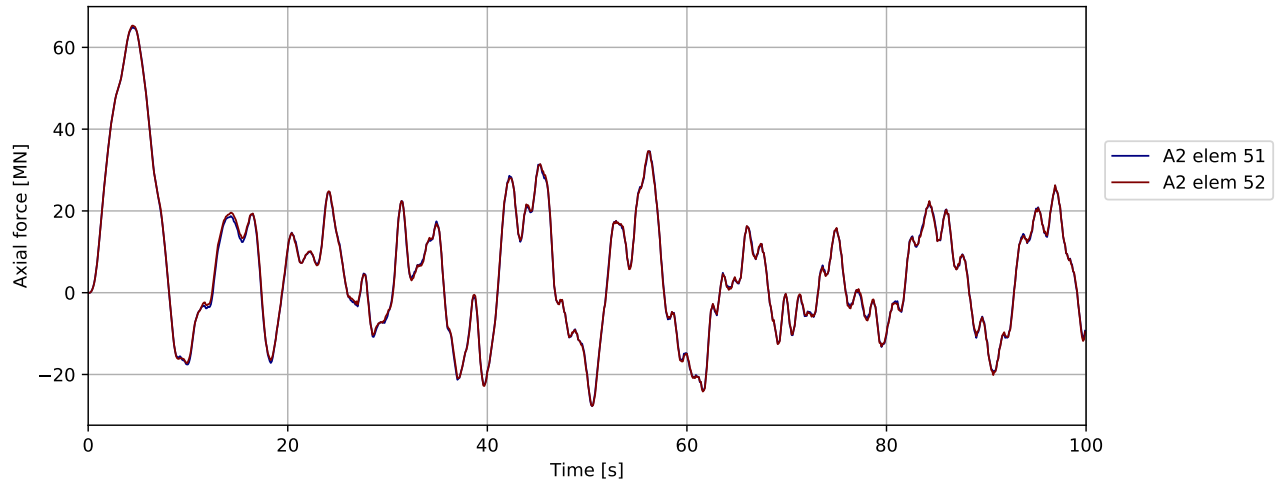


Figure 4.583: DH A8-A9 180deg - bridgegirder @ pylon: Axial force [MN]

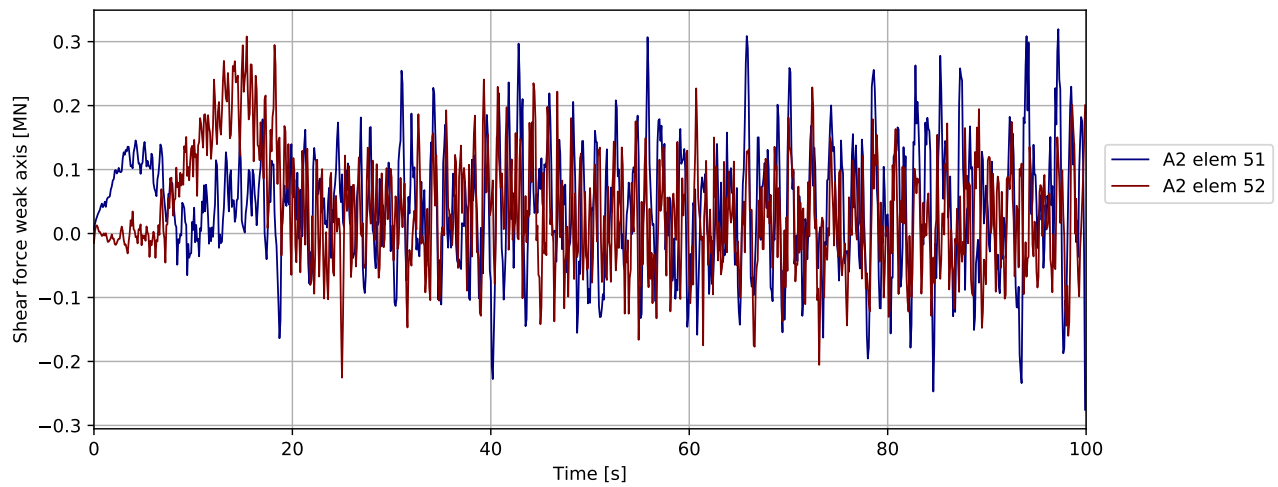


Figure 4.584: DH A8-A9 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

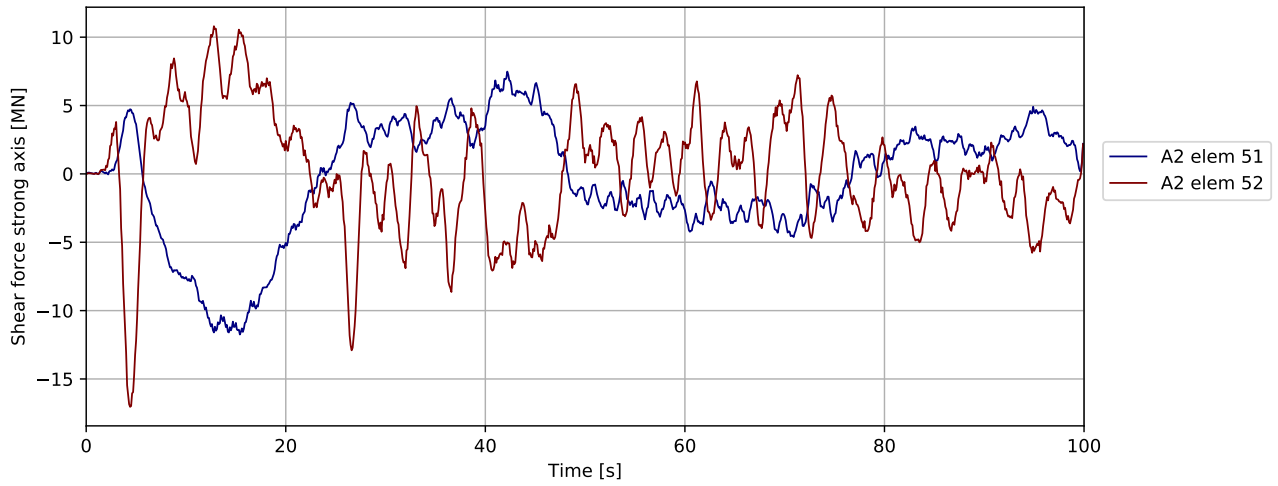


Figure 4.585: DH A8-A9 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

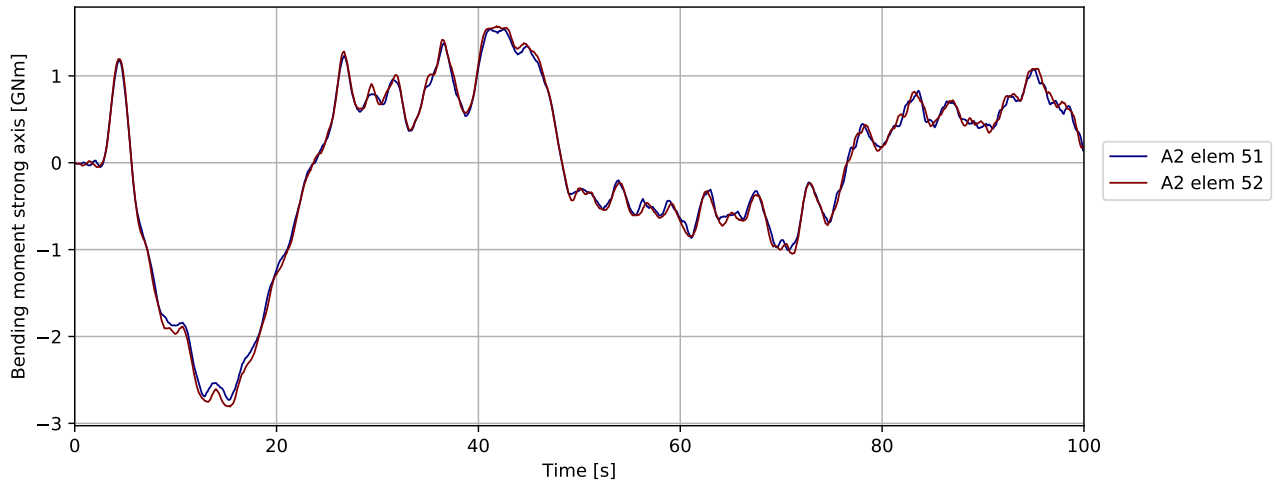


Figure 4.586: DH A8-A9 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

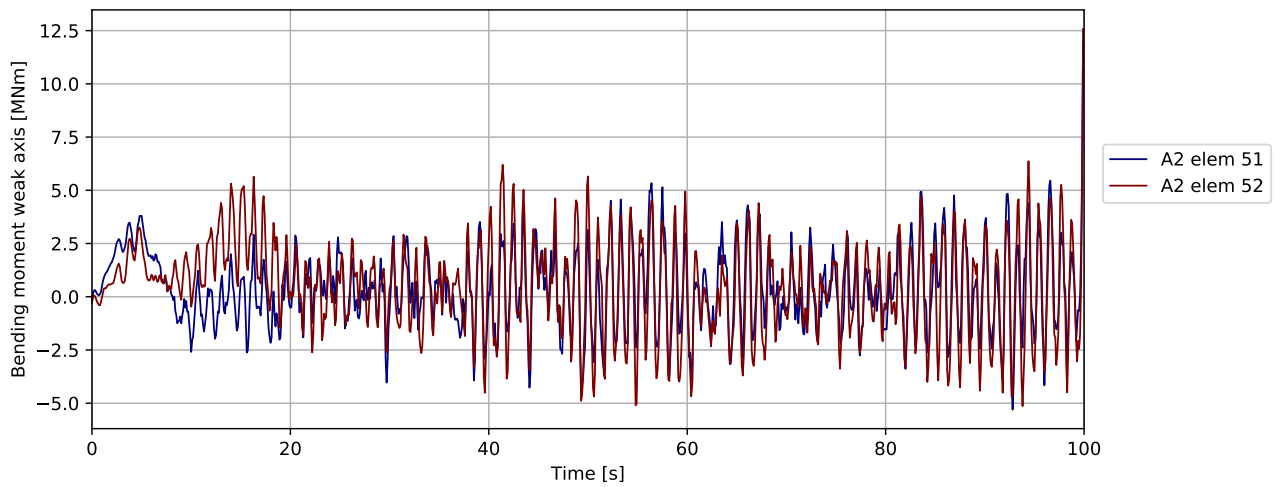


Figure 4.587: DH A8-A9 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

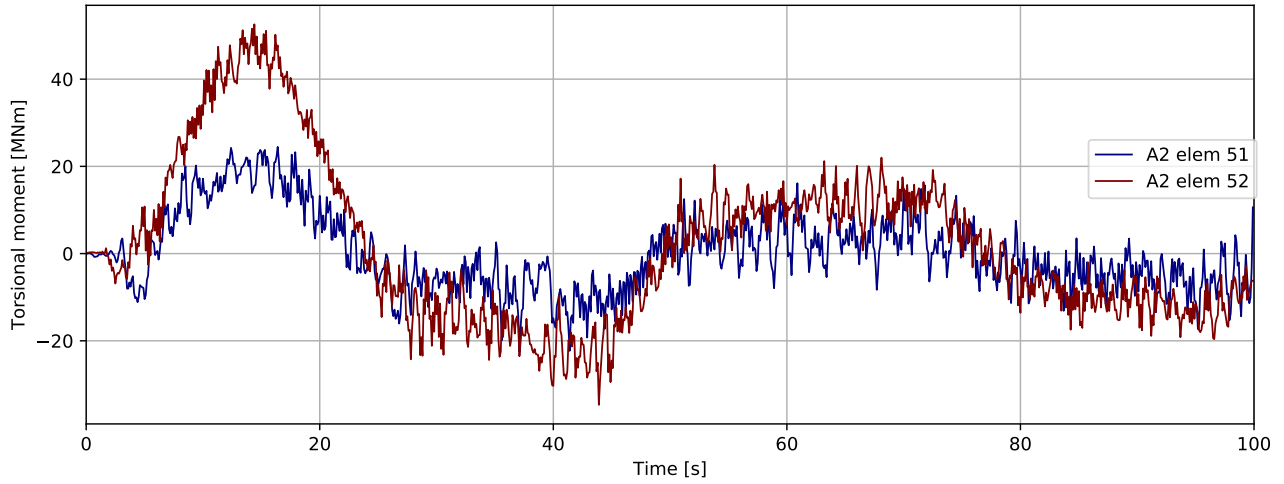


Figure 4.588: DH A8-A9 180deg - bridgegirder @ pylon: Torsional moment [MNm]

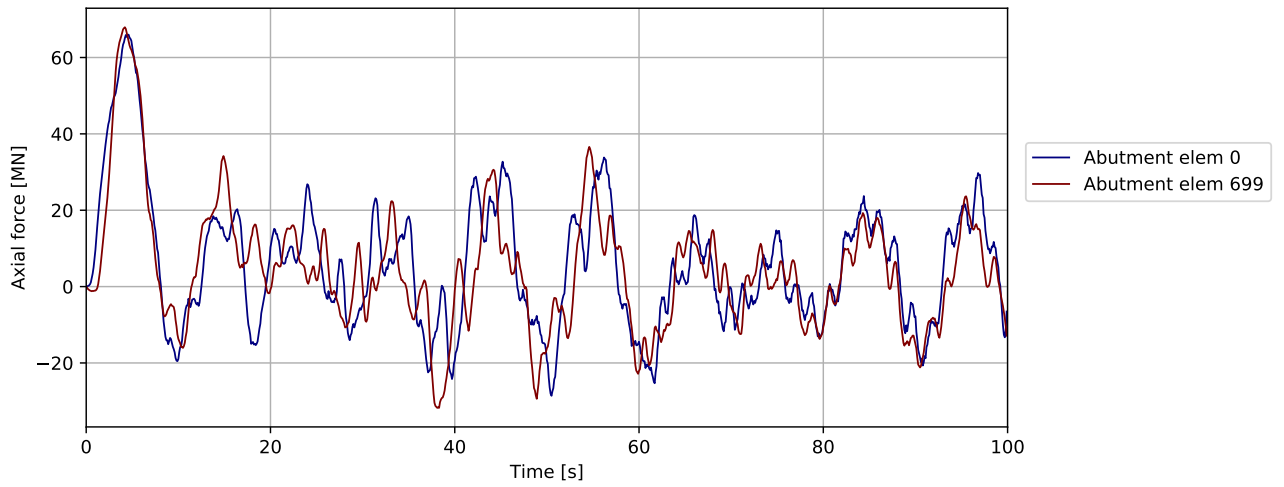


Figure 4.589: DH A8-A9 180deg - bridgegirder @abutments: Axial force [MN]

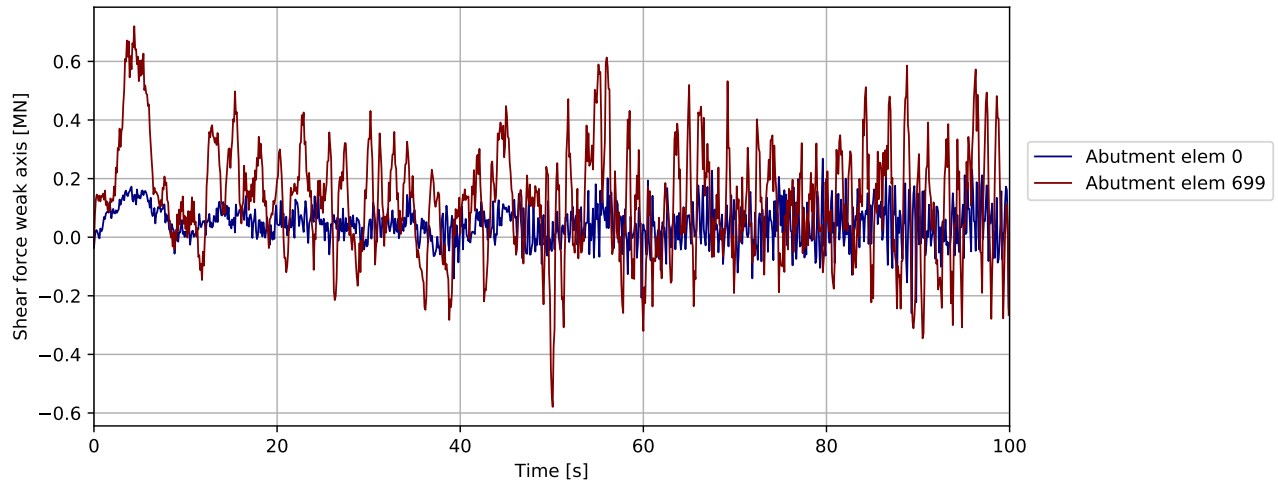


Figure 4.590: DH A8-A9 180deg - bridgegirder @abutments: Shear force weak axis [MN]

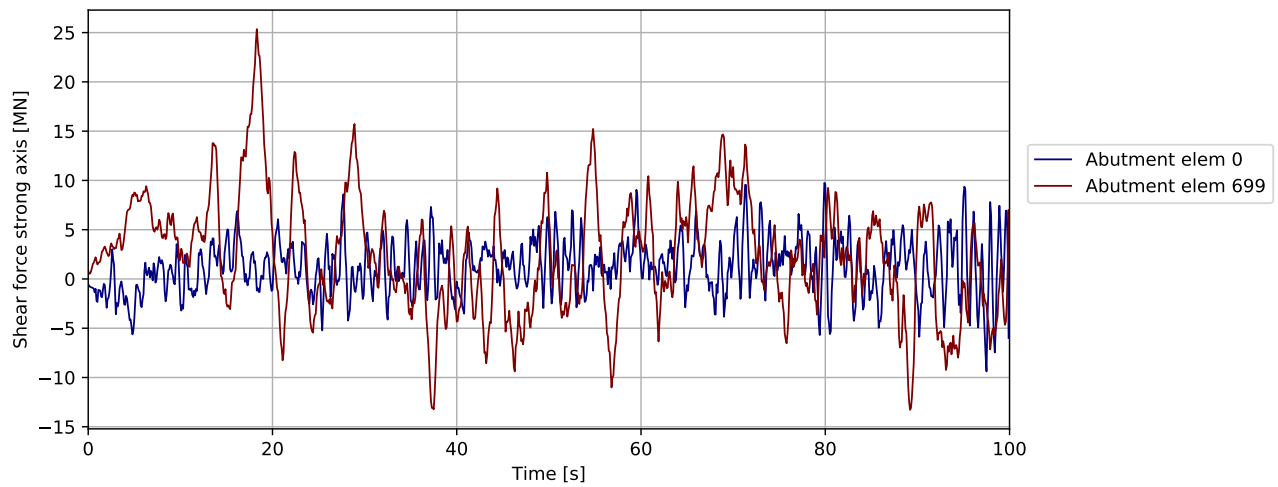


Figure 4.591: DH A8-A9 180deg - bridgegirder @abutments: Shear force strong axis [MN]

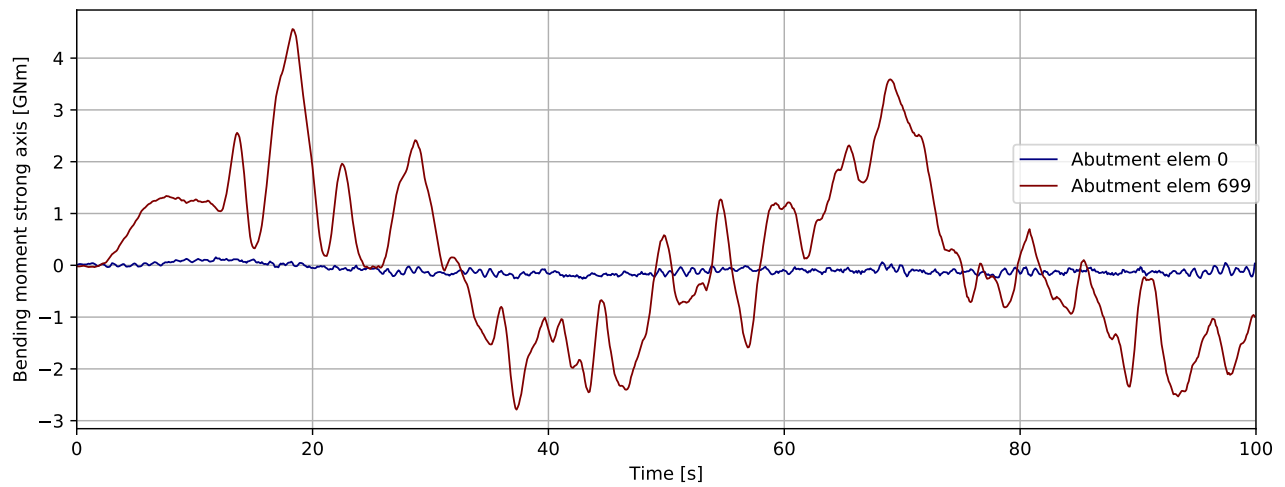


Figure 4.592: DH A8-A9 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

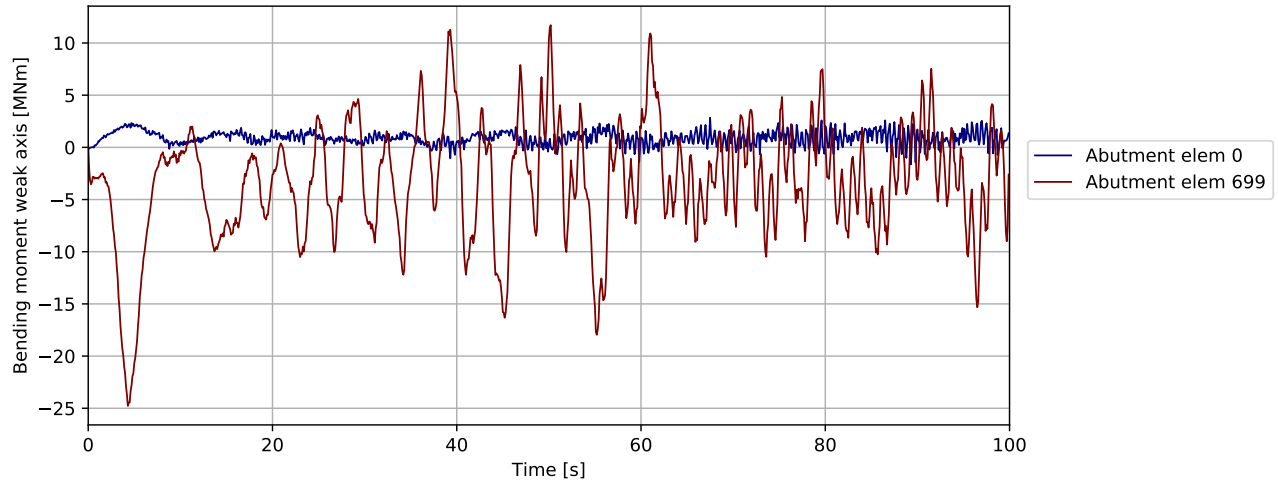


Figure 4.593: DH A8-A9 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

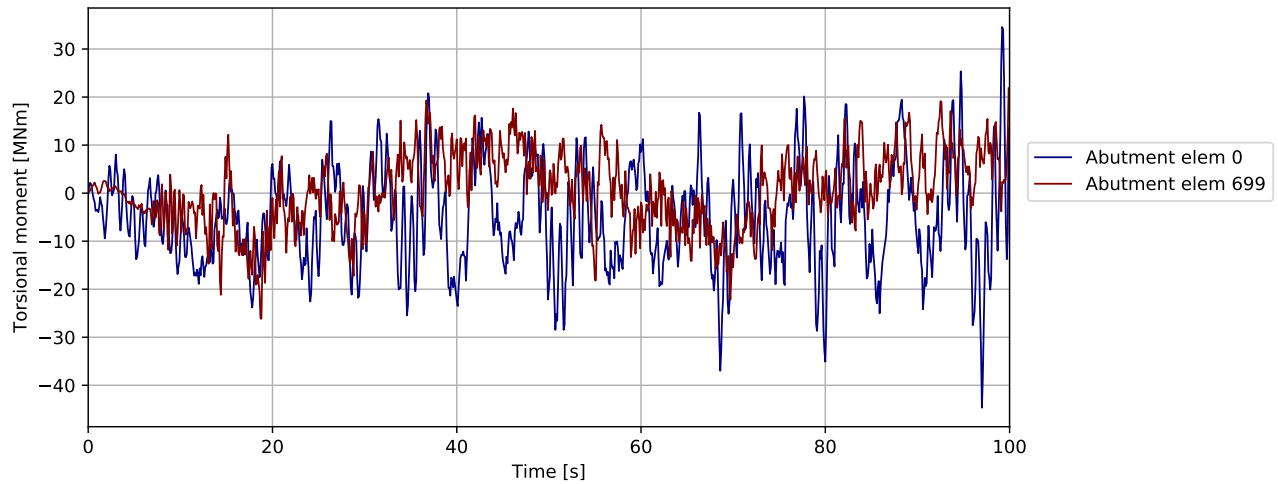


Figure 4.594: DH A8-A9 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

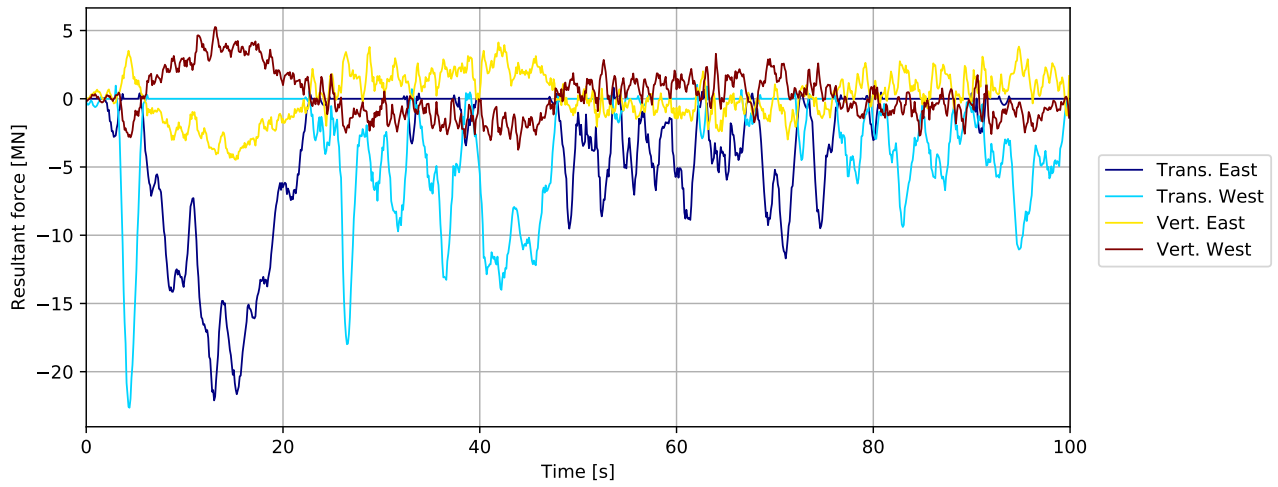


Figure 4.595: DH A8-A9 180deg - bridgegirder supports in tower: Resultant force [MN]

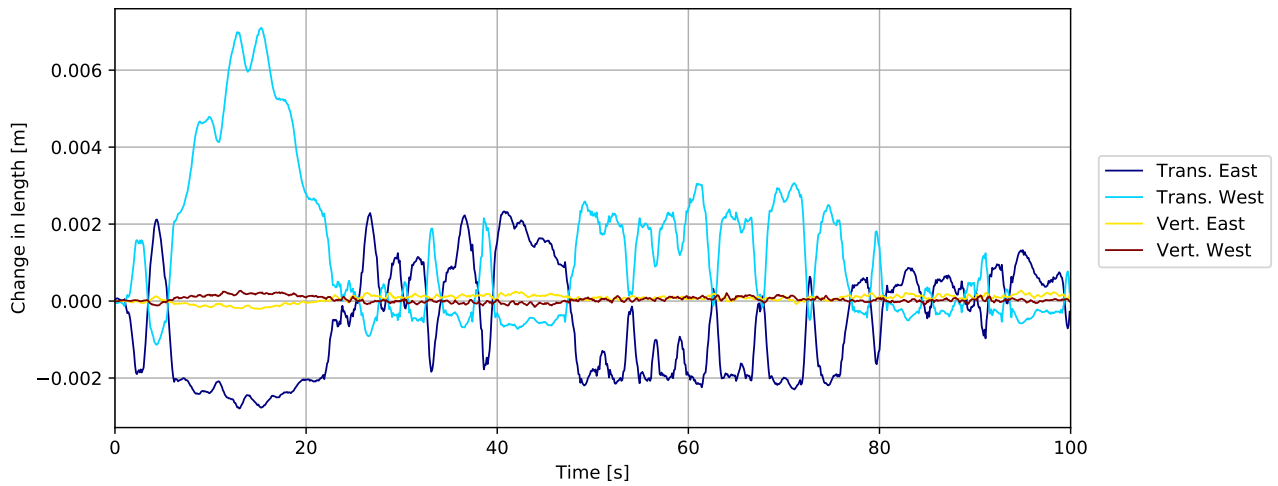


Figure 4.596: DH A8-A9 180deg - bridgegirder supports in tower: Change in length [m]

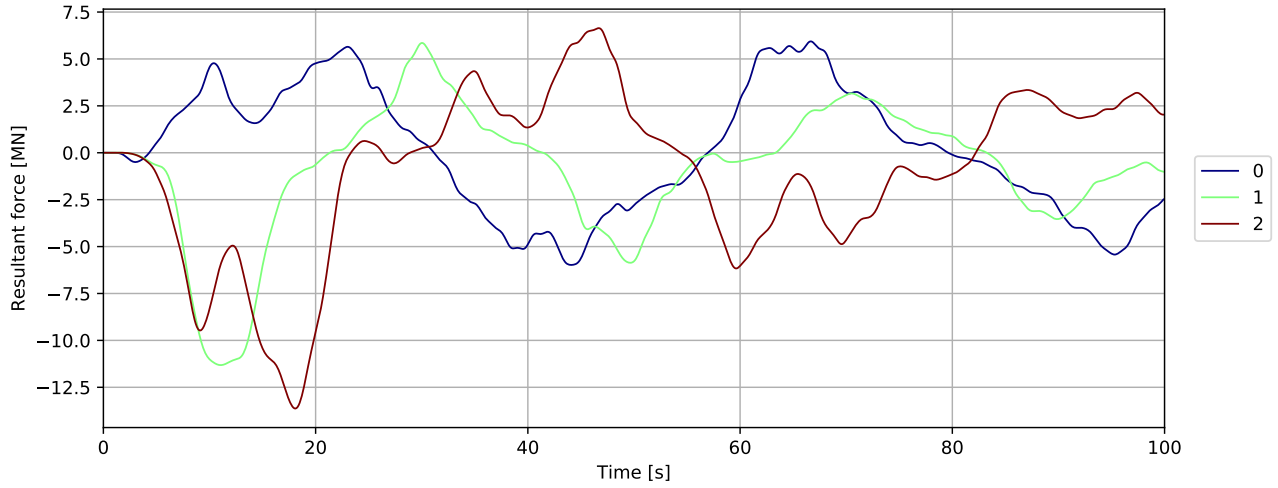


Figure 4.597: Mooring force

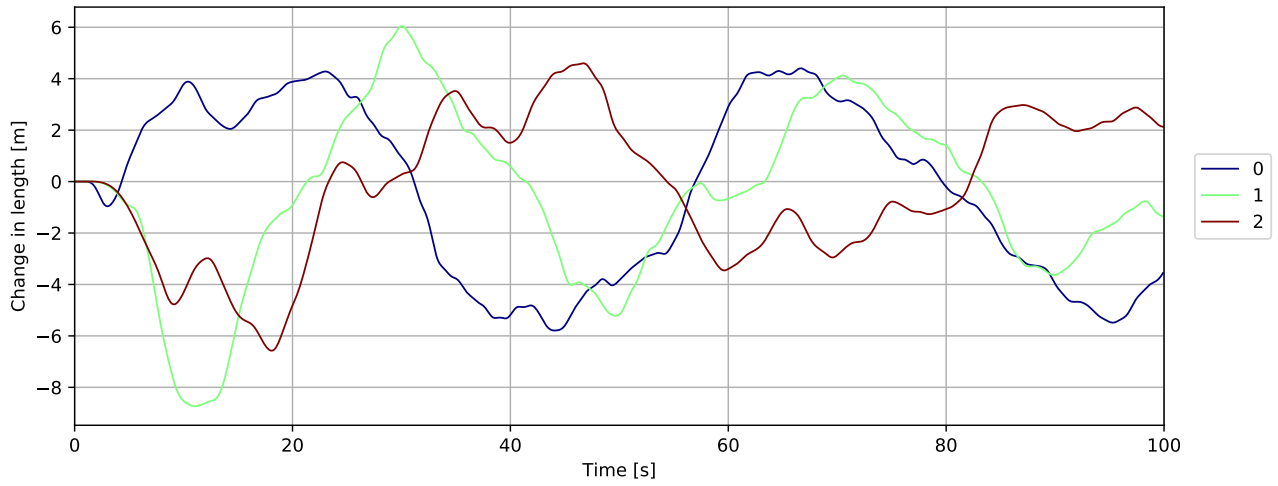


Figure 4.598: Mooring displacement

4.14 Deck house A13-A14 180deg

4.14.1 Overall response

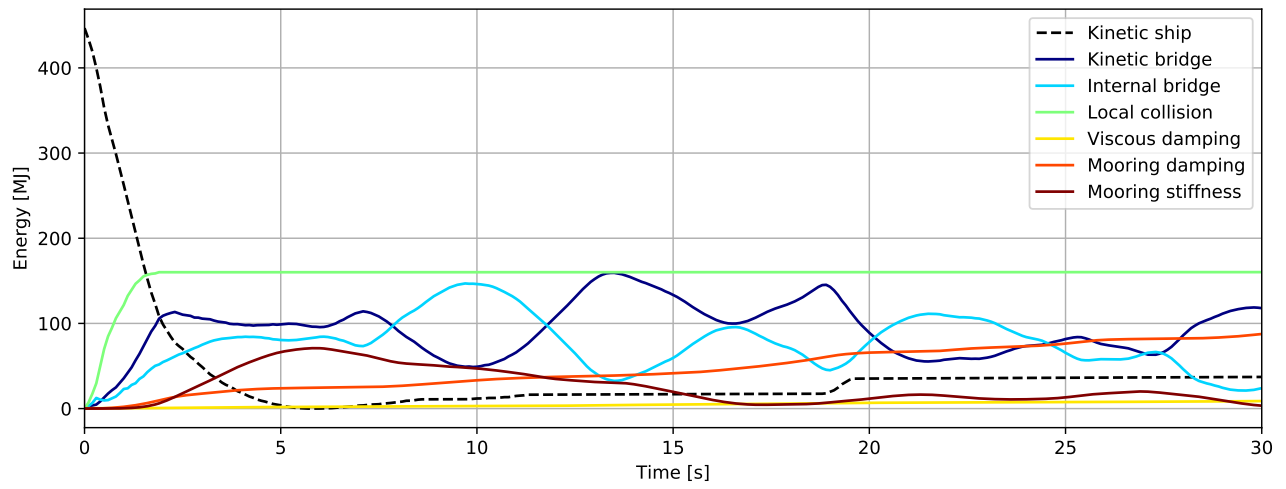


Figure 4.599: Energy [MJ] - initial phase

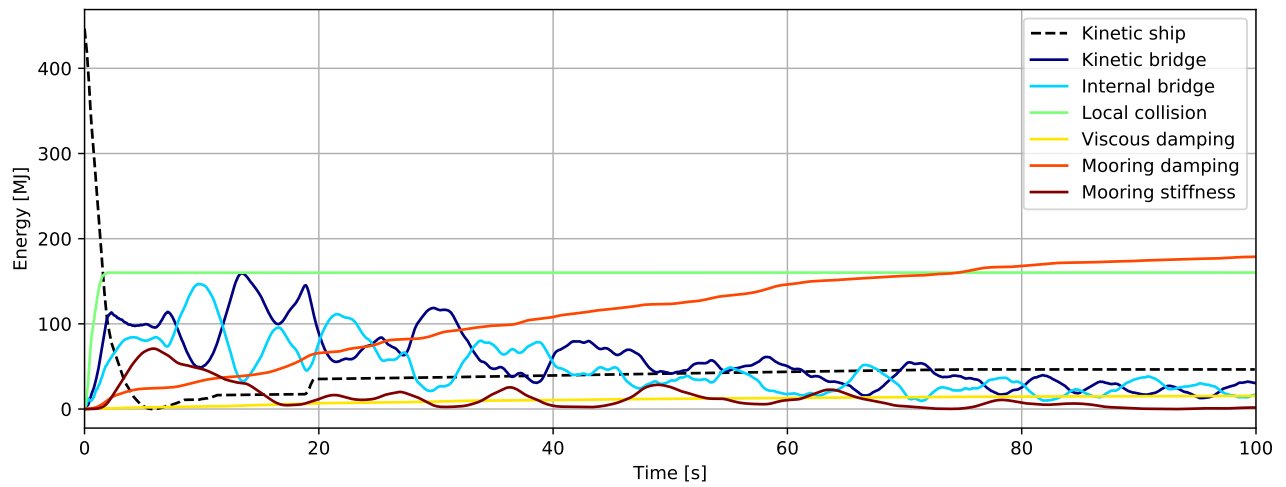


Figure 4.600: Energy [MJ]

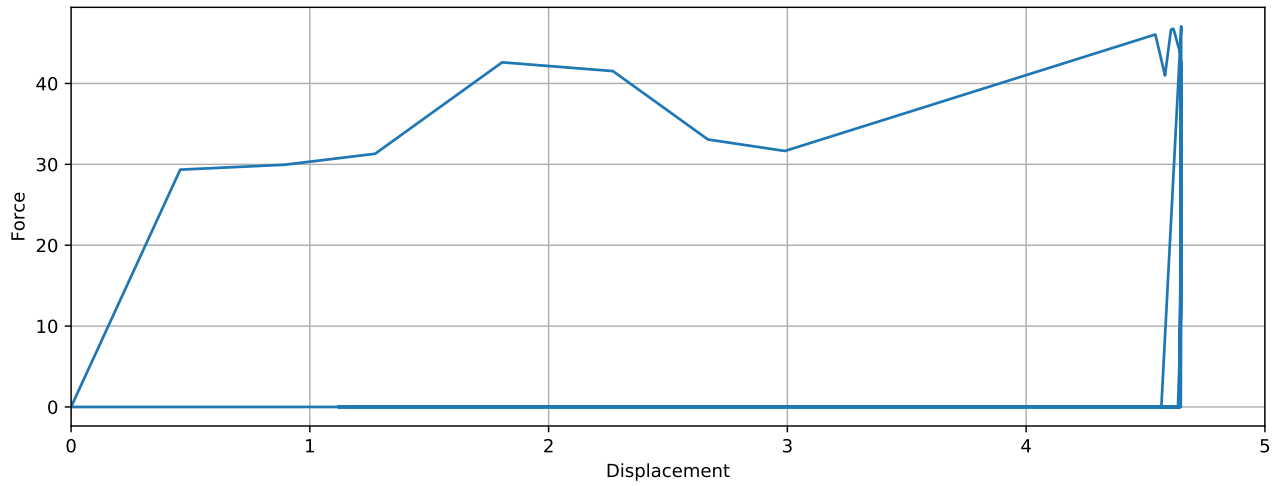


Figure 4.601: Simulated local collision force-displacement

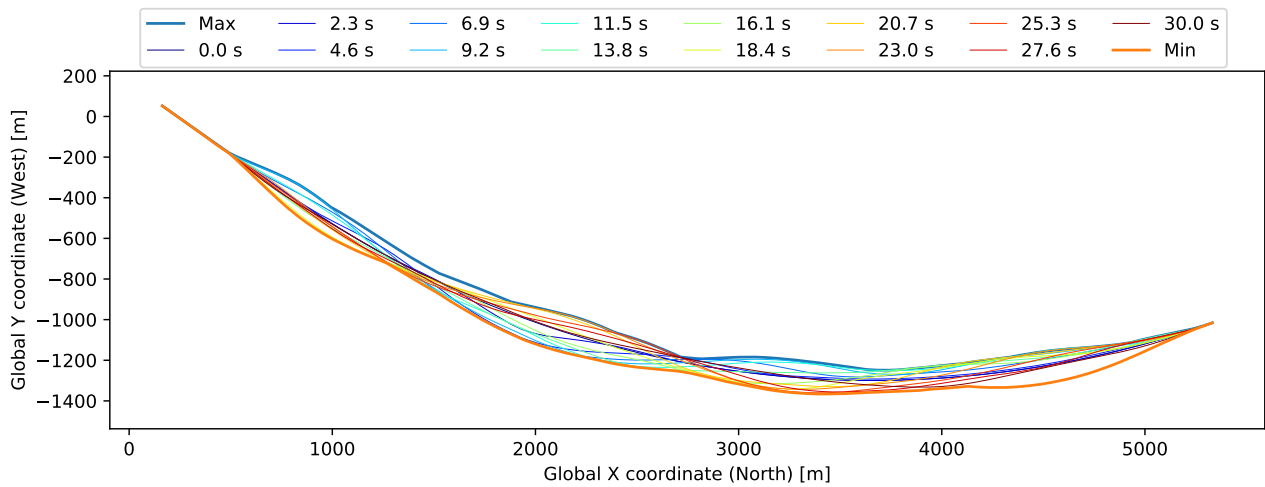


Figure 4.602: Bridgegirder deflection (10x displacement scaling)

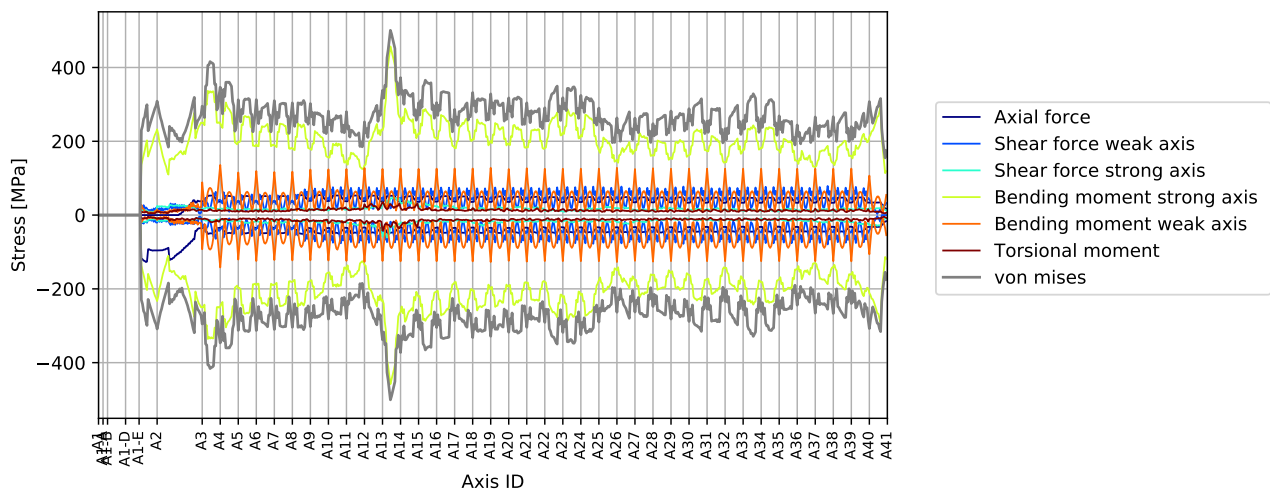


Figure 4.603: Stress envelope from all force components

4.14.2 Envelope plots

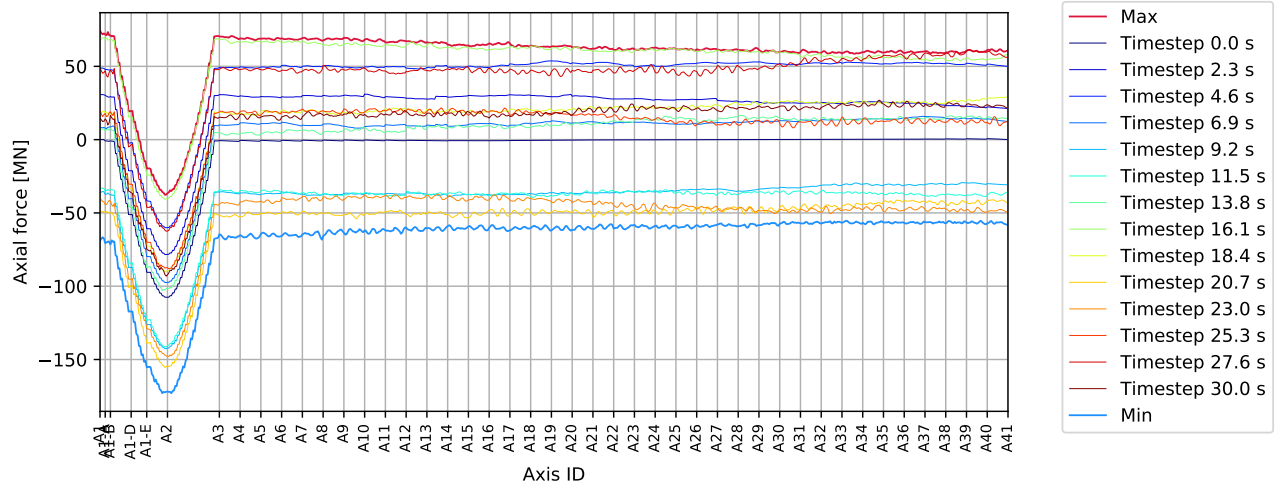


Figure 4.604: DH A13-A14 180deg - bridgegirder : Axial force [MN]

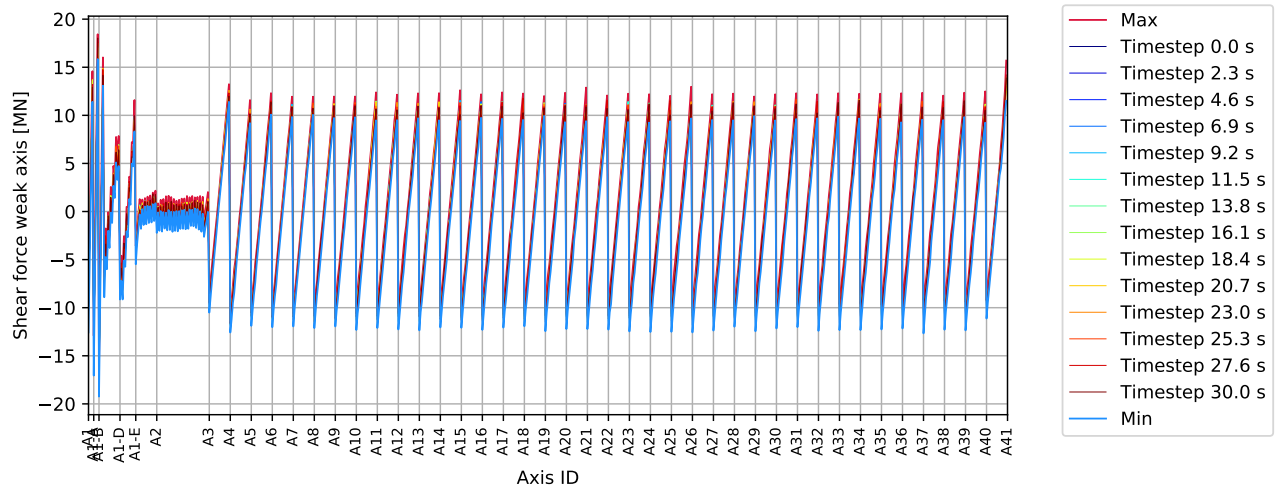


Figure 4.605: DH A13-A14 180deg - bridgegirder : Shear force weak axis [MN]