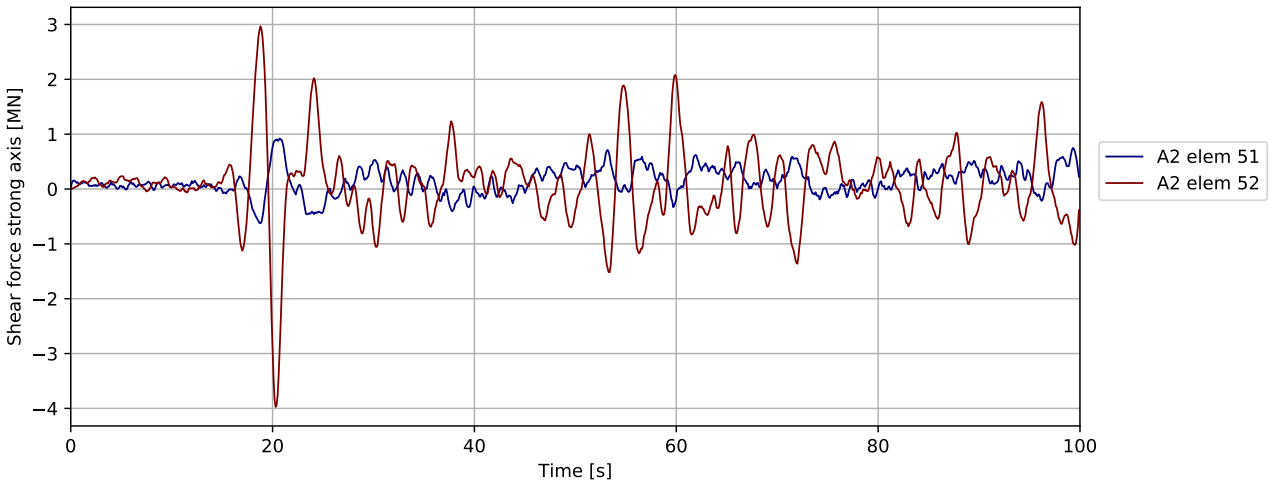

Figure 3.1229: P A40 80deg - bridgegirder @ pylon: Shear force strong axis [MN]

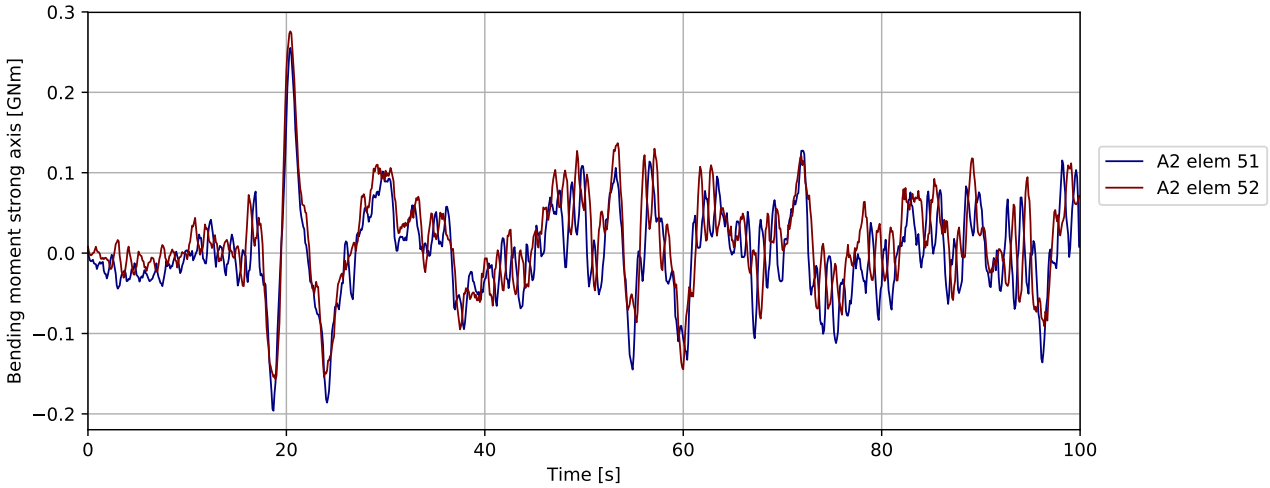

Figure 3.1230: P A40 80deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

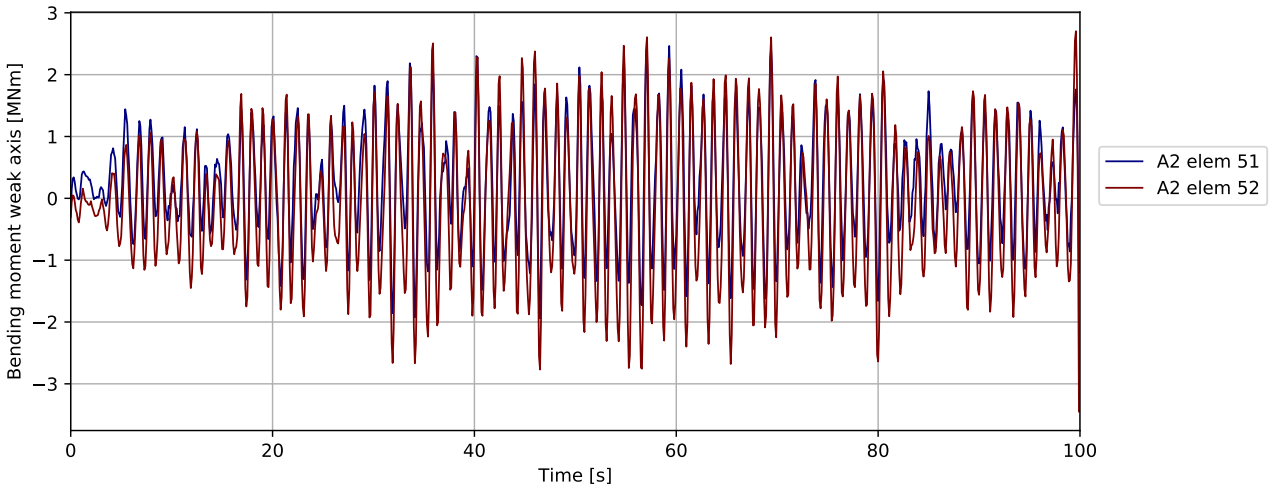

Figure 3.1231: P A40 80deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

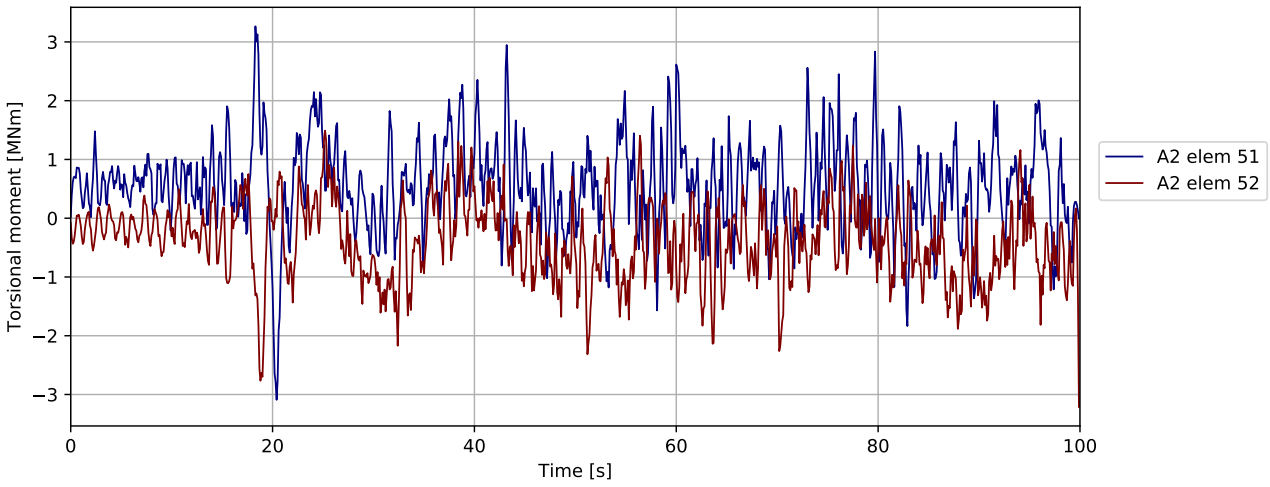

Figure 3.1232: P A40 80deg - bridgegirder @ pylon: Torsional moment [MNm]

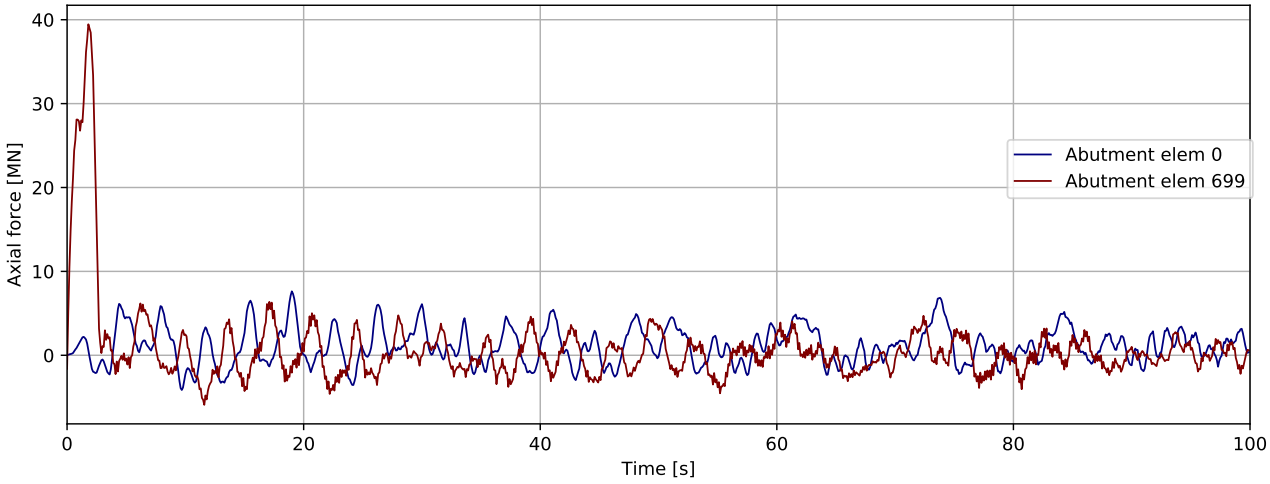

Figure 3.1233: P A40 80deg - bridgegirder @abutments: Axial force [MN]

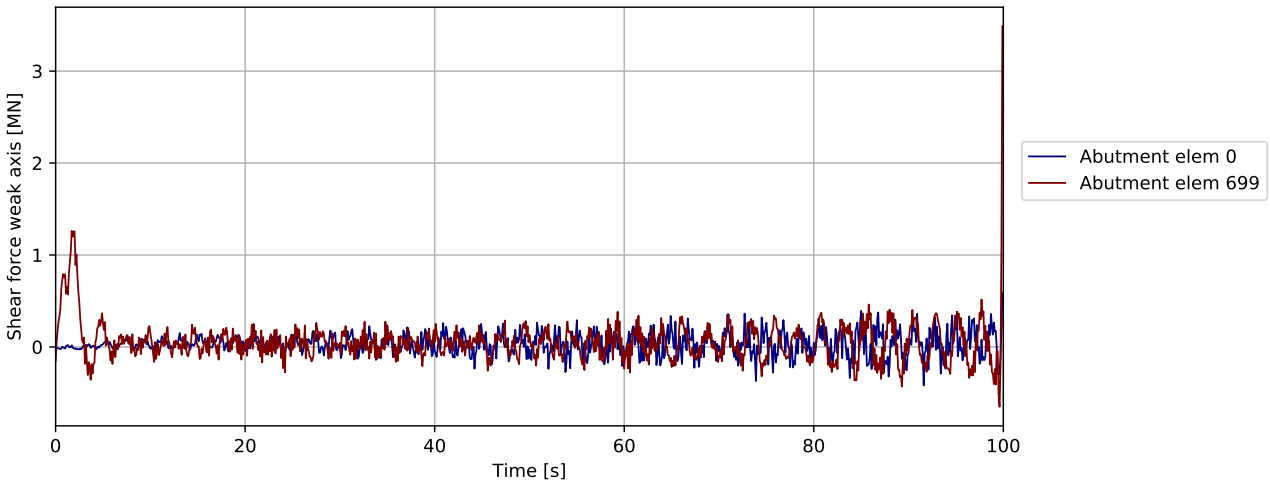

Figure 3.1234: P A40 80deg - bridgegirder @abutments: Shear force weak axis [MN]

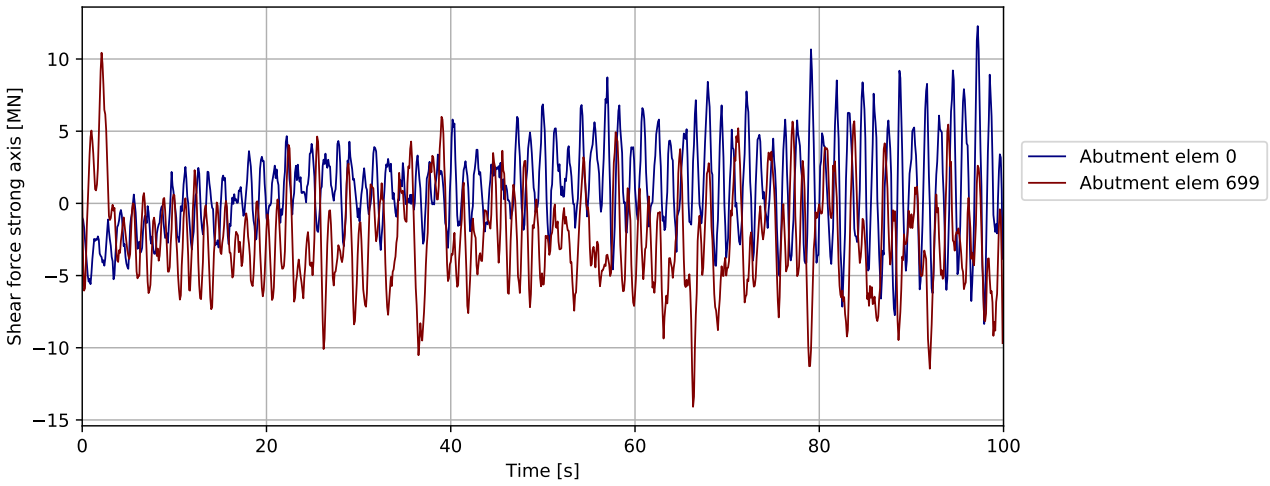

Figure 3.1235: P A40 80deg - bridgegirder @abutments: Shear force strong axis [MN]

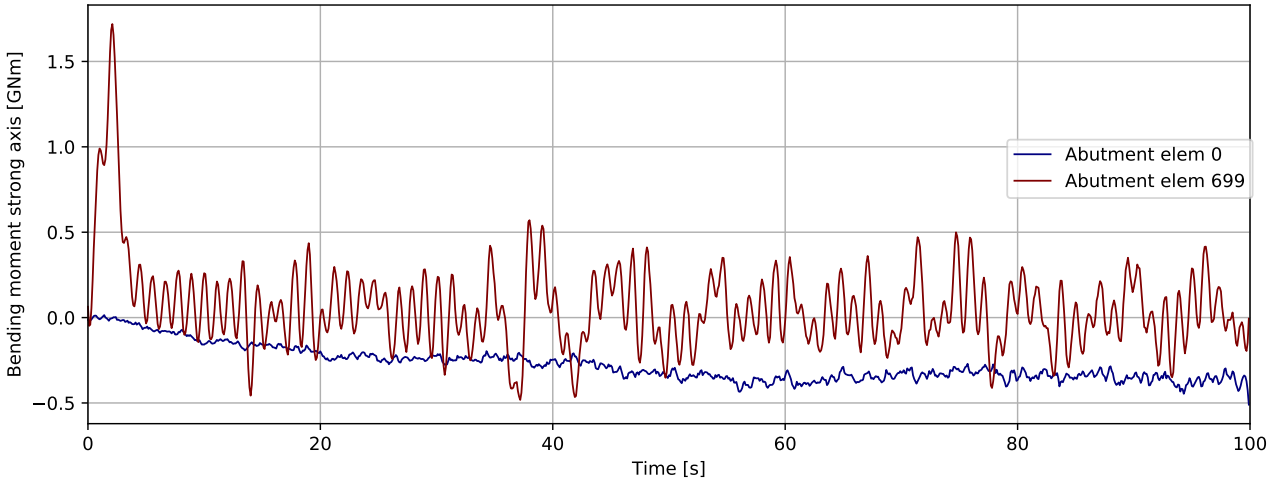

Figure 3.1236: P A40 80deg - bridgegirder @abutments: Bending moment strong axis [GNm]

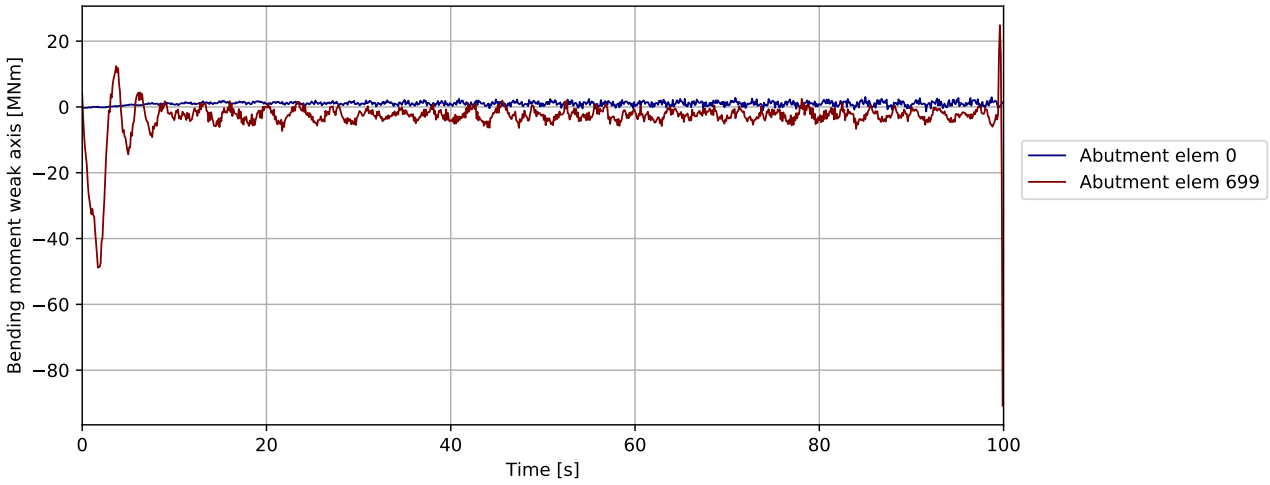

Figure 3.1237: P A40 80deg - bridgegirder @abutments: Bending moment weak axis [MNm]

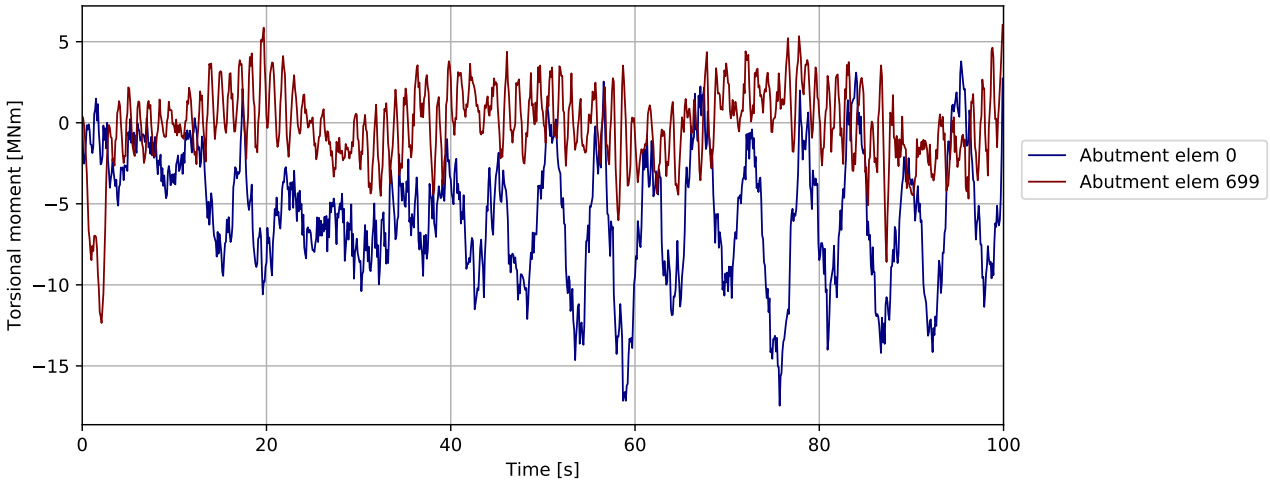

Figure 3.1238: P A40 80deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

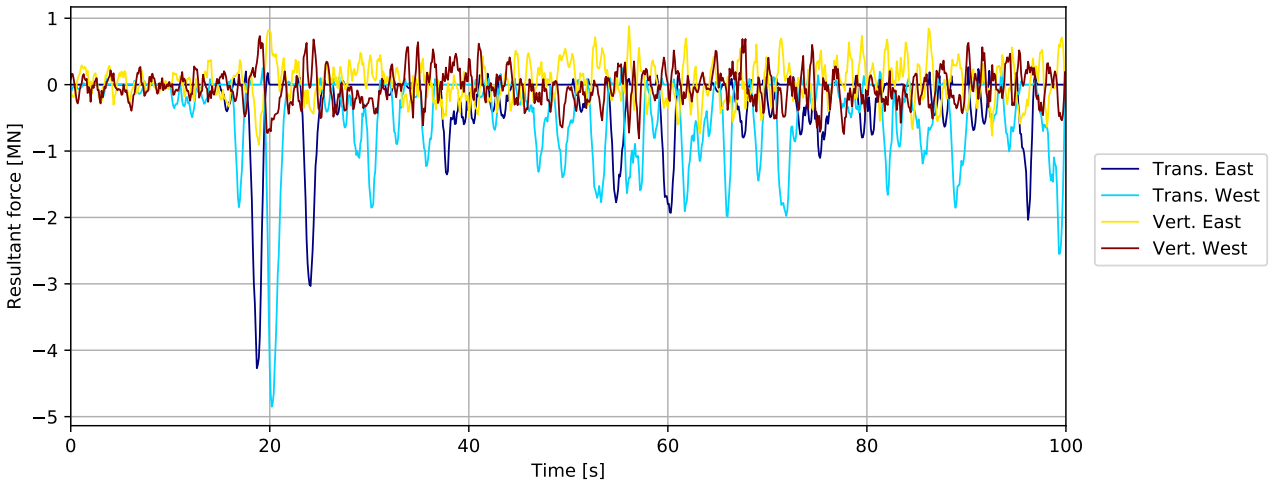

Figure 3.1239: P A40 80deg - bridgegirder supports in tower: Resultant force [MN]

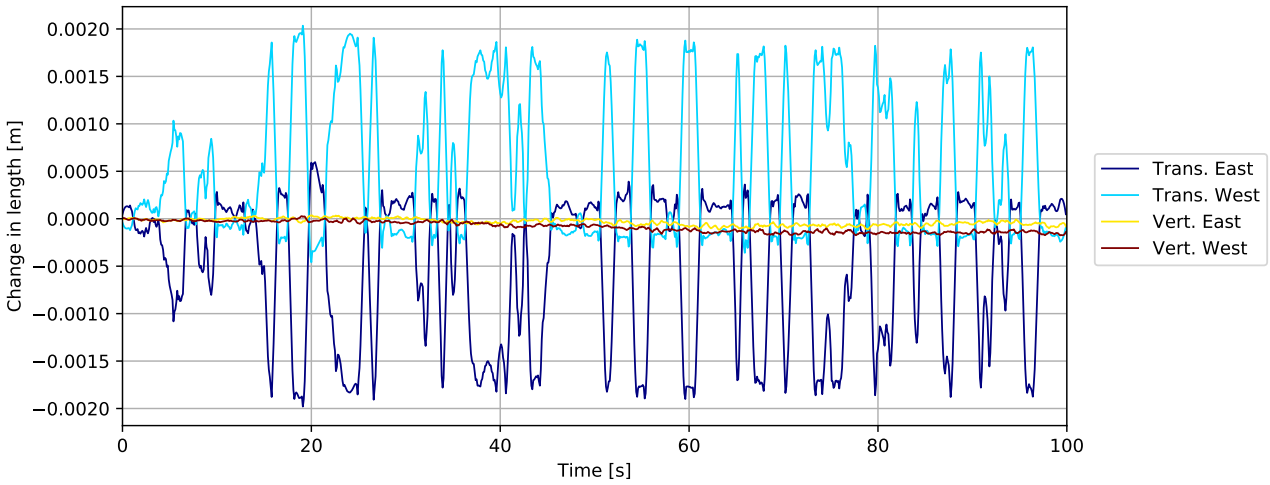

Figure 3.1240: P A40 80deg - bridgegirder supports in tower: Change in length [m]

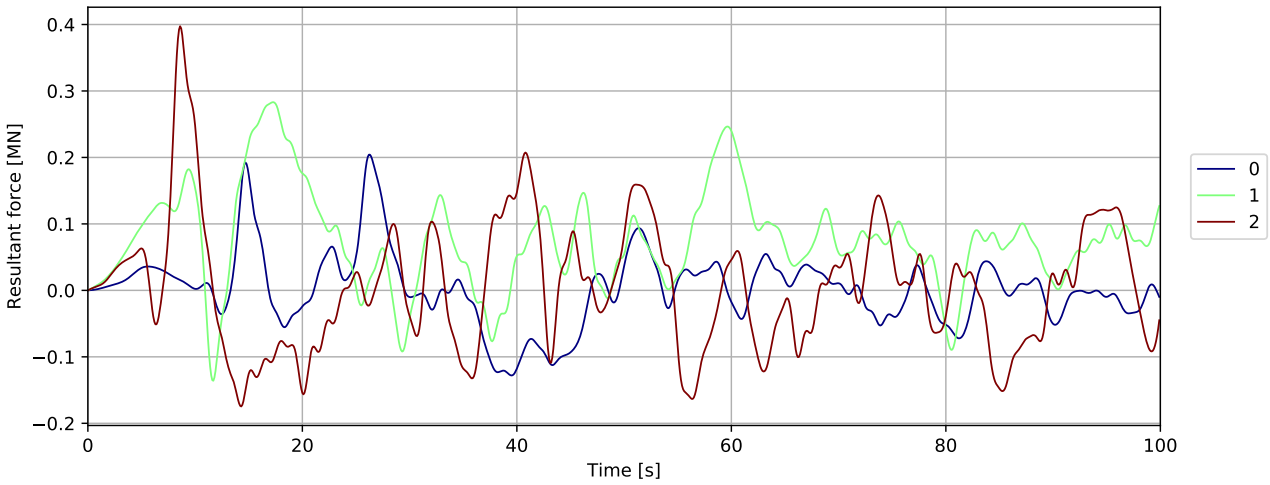

Figure 3.1241: Mooring force

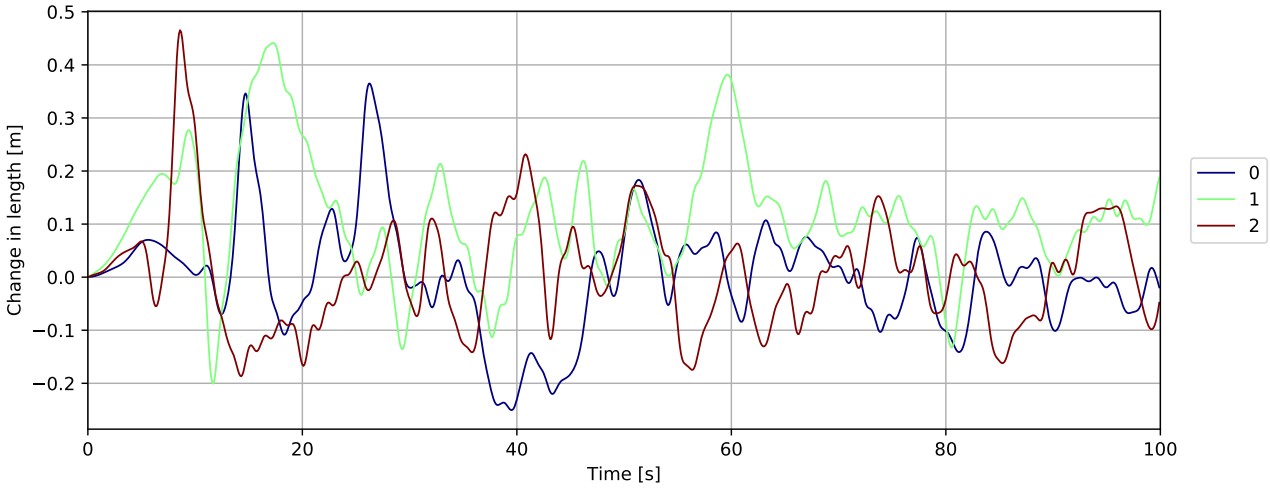

Figure 3.1242: Mooring displacement

3.28 PontoonA3 180deg

3.28.1 Overall response

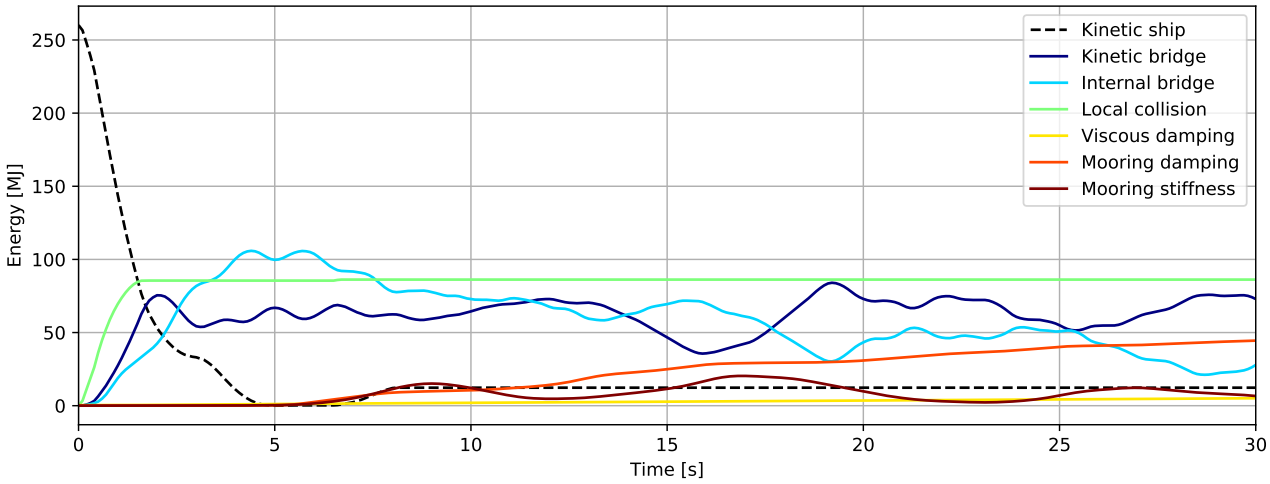

Figure 3.1243: Energy [MJ] - initial phase

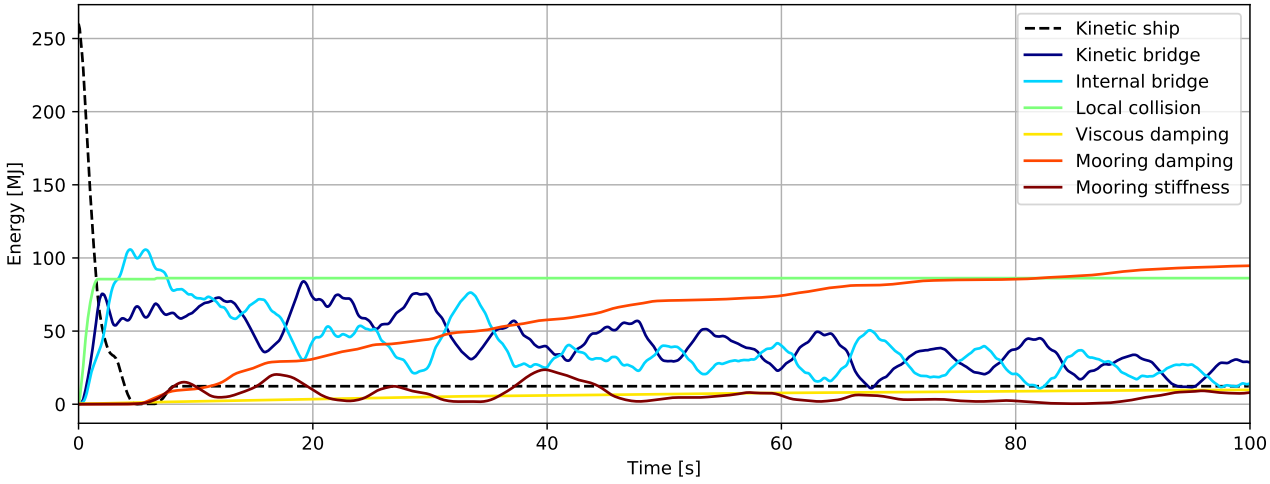

Figure 3.1244: Energy [MJ]

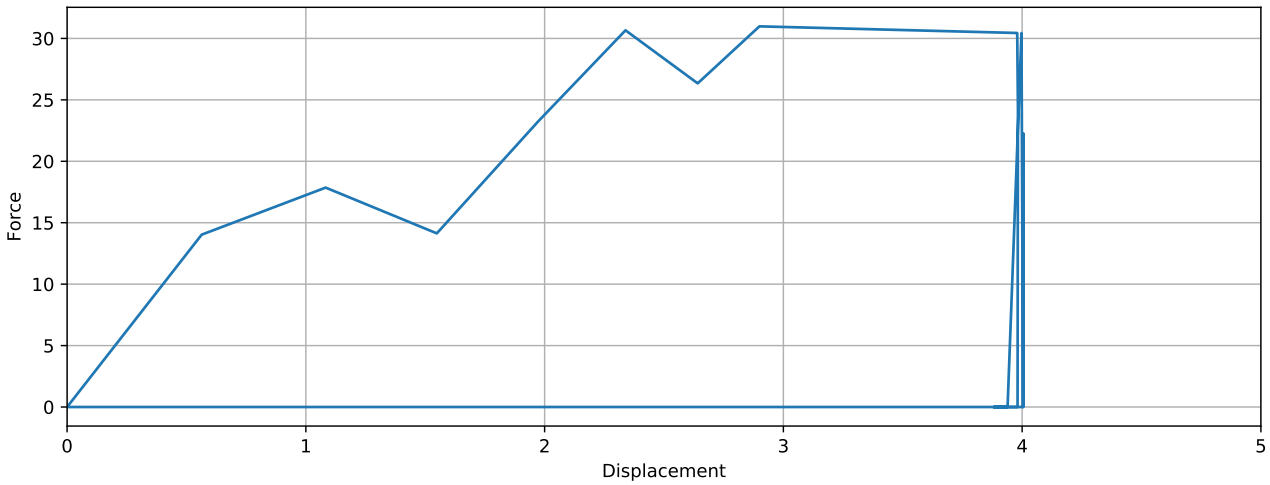

Figure 3.1245: Simulated local collision force-displacement

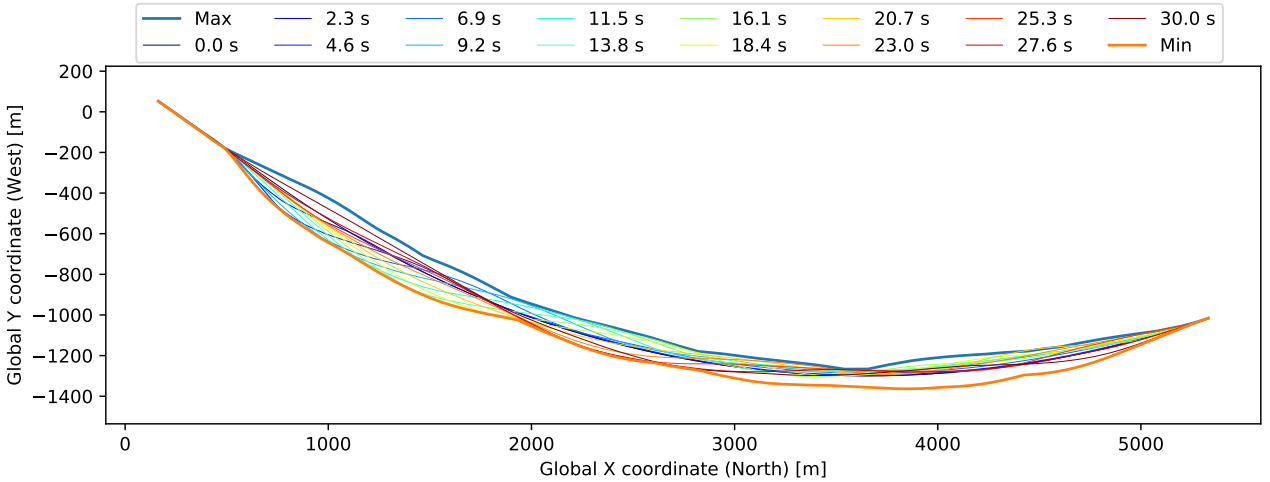

Figure 3.1246: Bridgegirder deflection (10x displacment scaling)

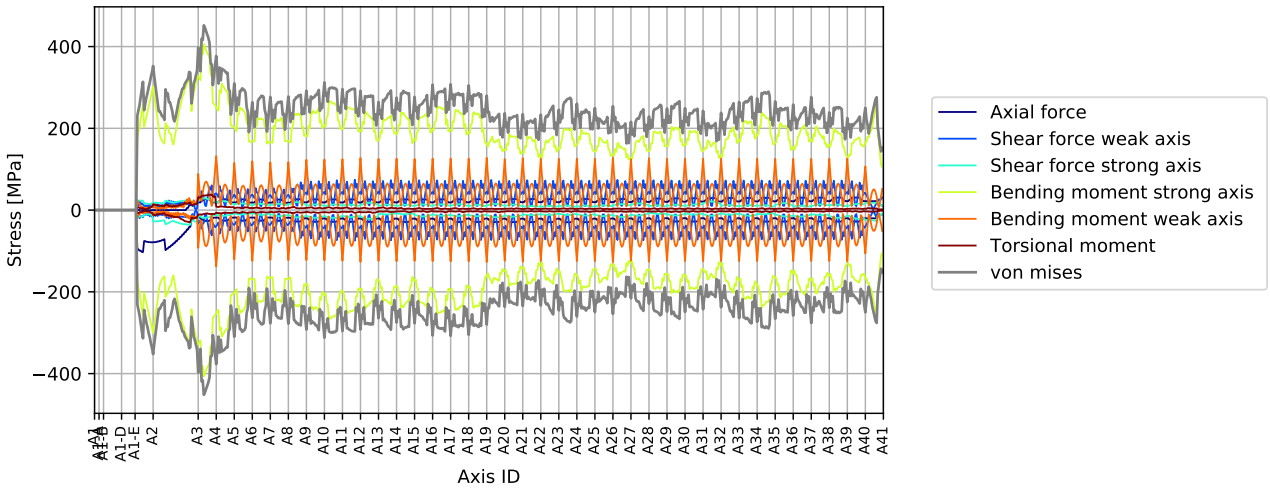

Figure 3.1247: Stress envelope from all force components

3.28.2 Envelope plots

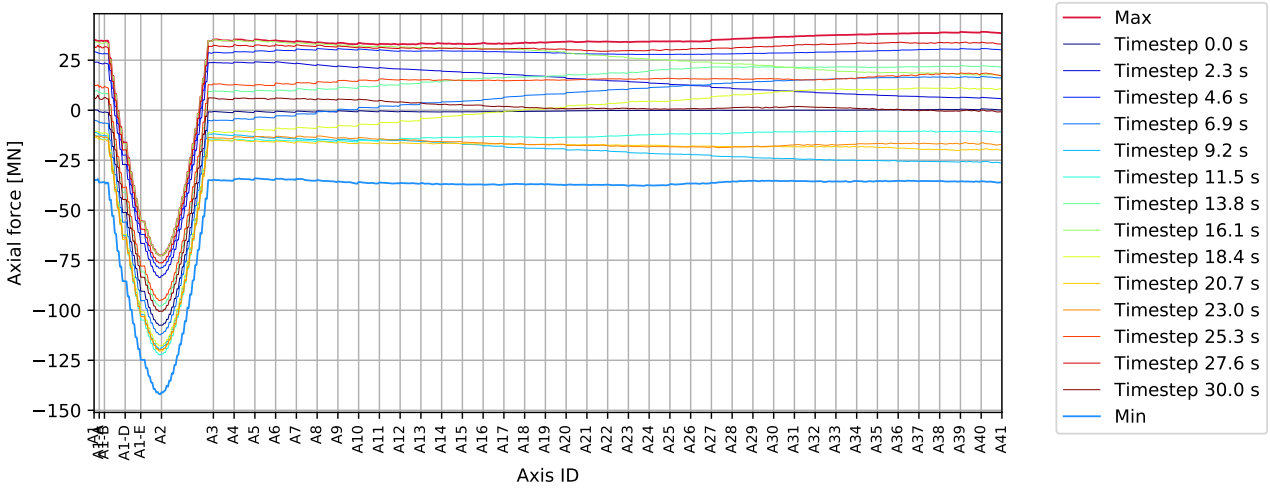

Figure 3.1248: P A3 180deg - bridgegirder : Axial force [MN]

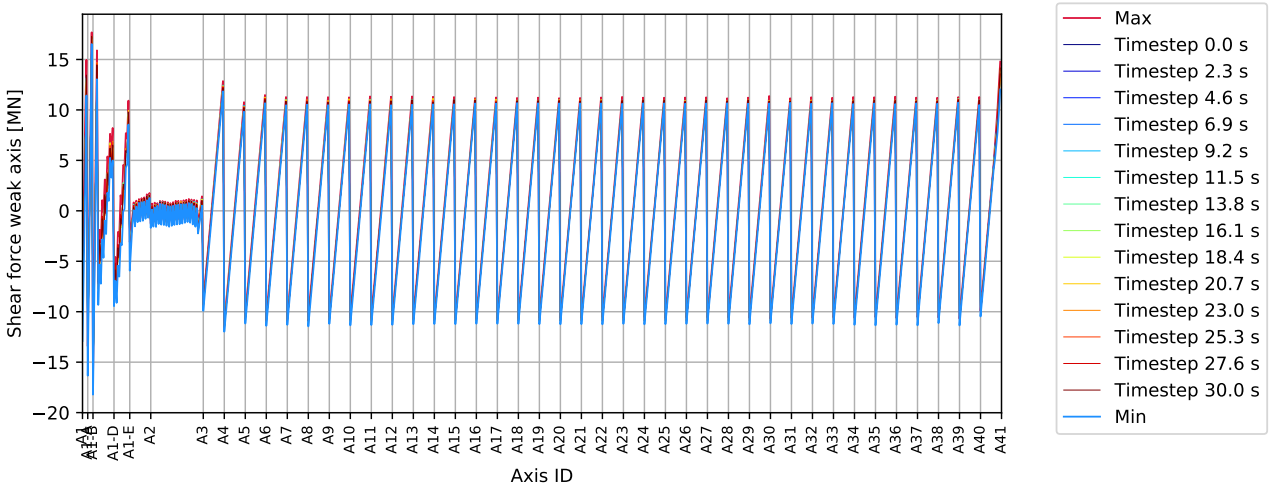

Figure 3.1249: P A3 180deg - bridgegirder : Shear force weak axis [MN]

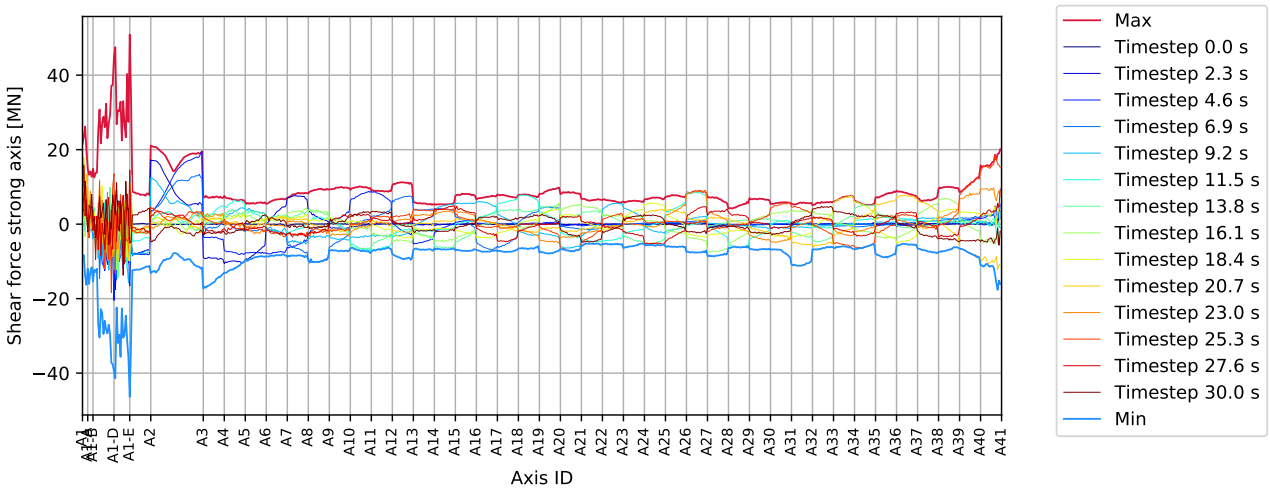

Figure 3.1250: P A3 180deg - bridgegirder : Shear force strong axis [MN]

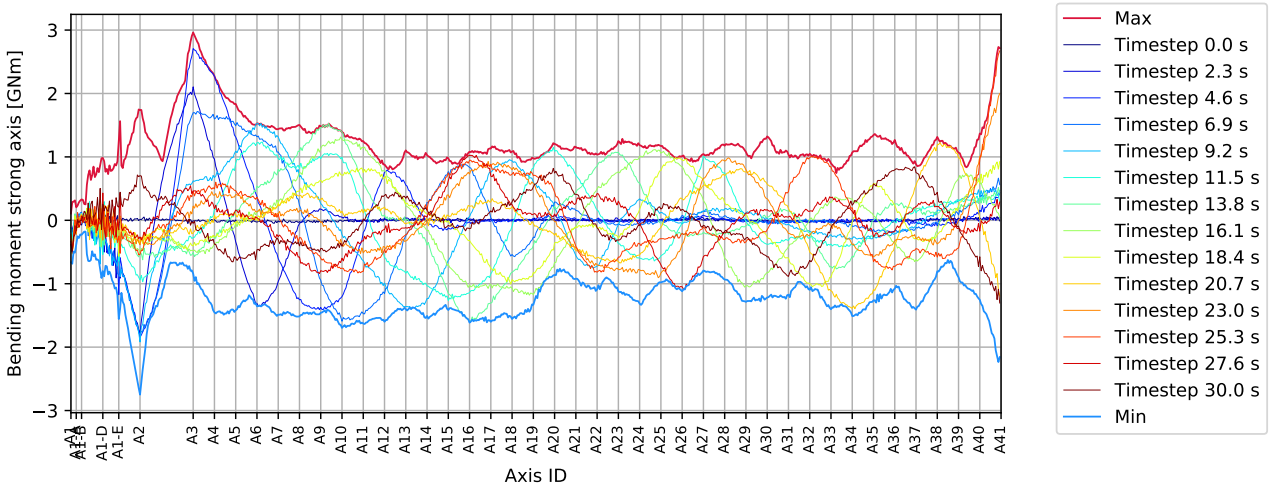

Figure 3.1251: P A3 180deg - bridgegirder : Bending moment strong axis [GNm]

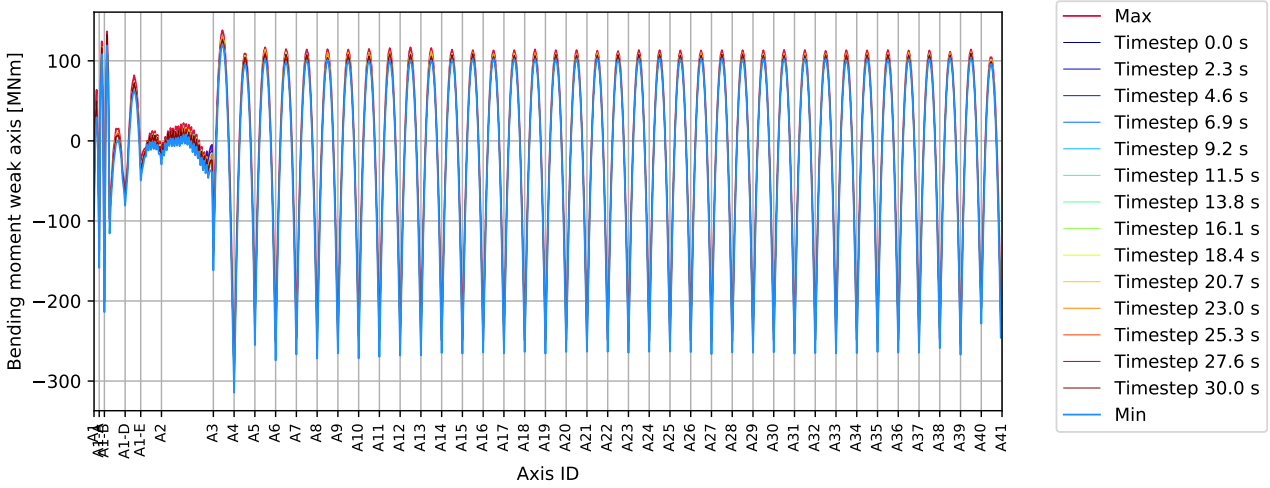

Figure 3.1252: P A3 180deg - bridgegirder : Bending moment weak axis [MNm]

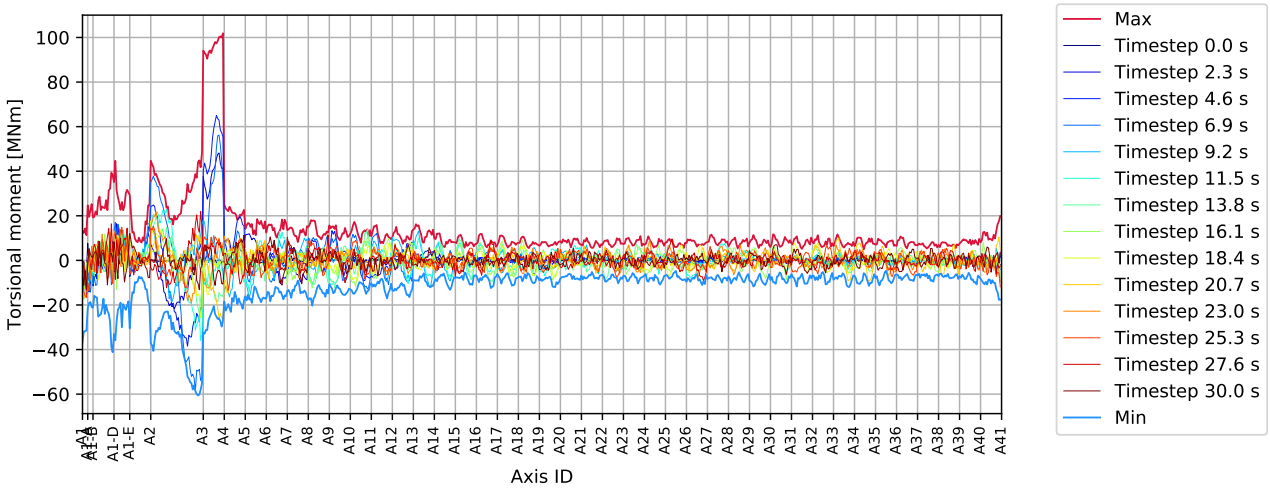

Figure 3.1253: P A3 180deg - bridgegirder : Torsional moment [MNm]

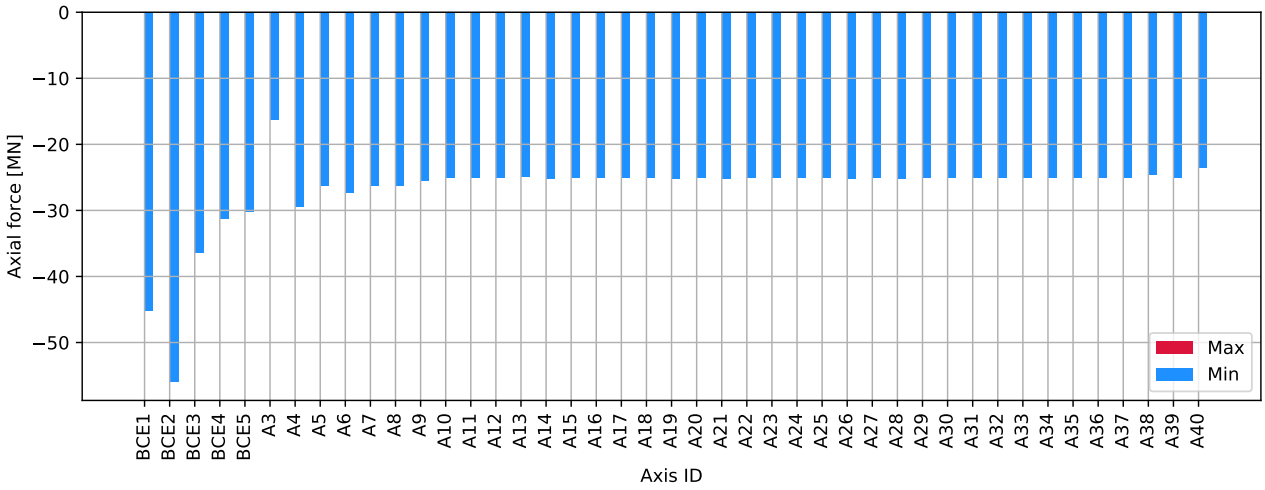

Figure 3.1254: P A3 180deg - columns bottom : Axial force [MN]

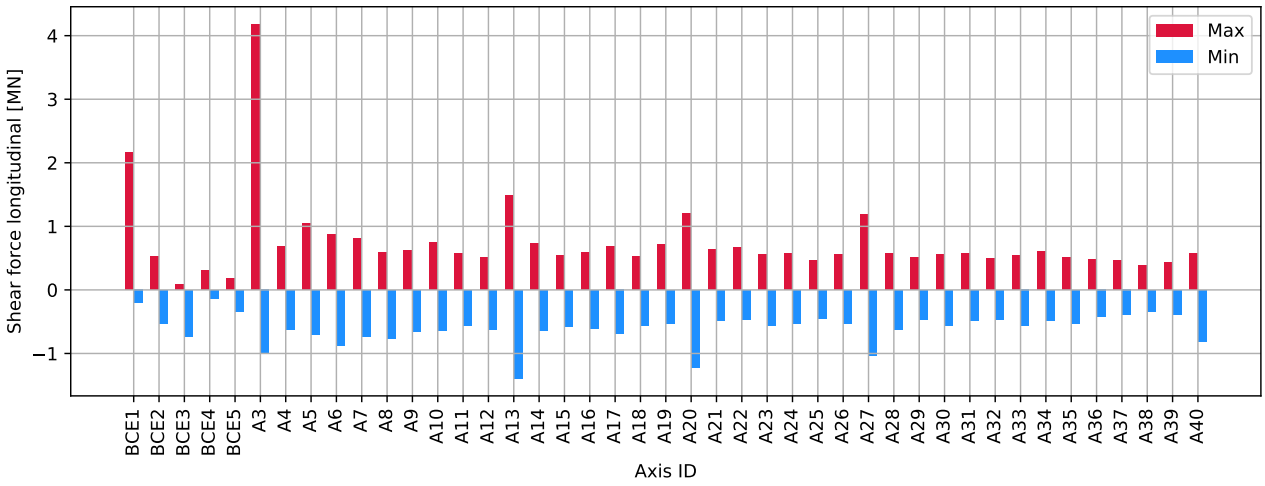

Figure 3.1255: P A3 180deg - columns bottom : Shear force longitudinal [MN]

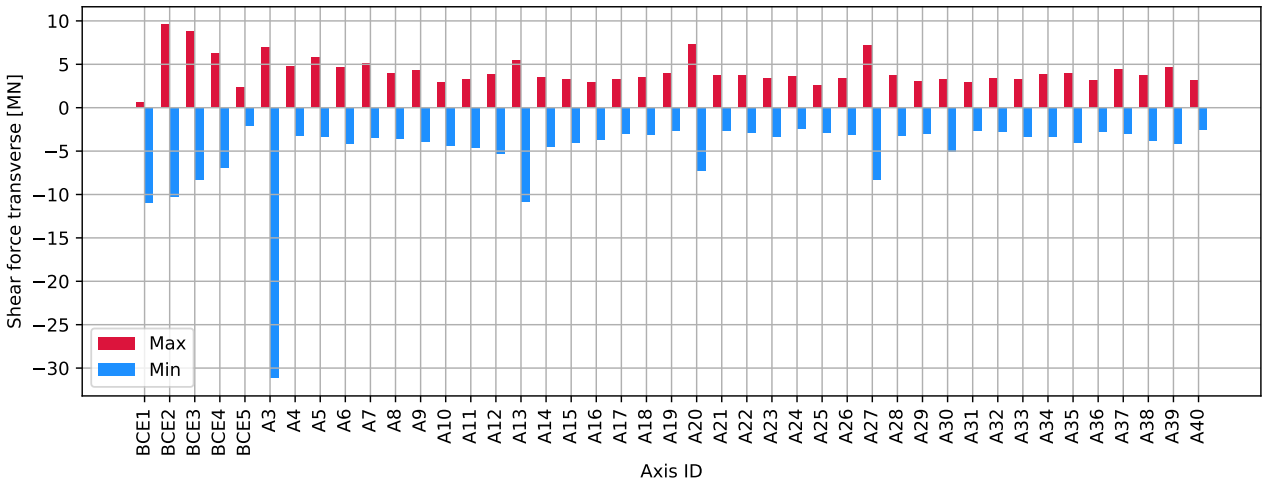

Figure 3.1256: P A3 180deg - columns bottom : Shear force transverse [MN]

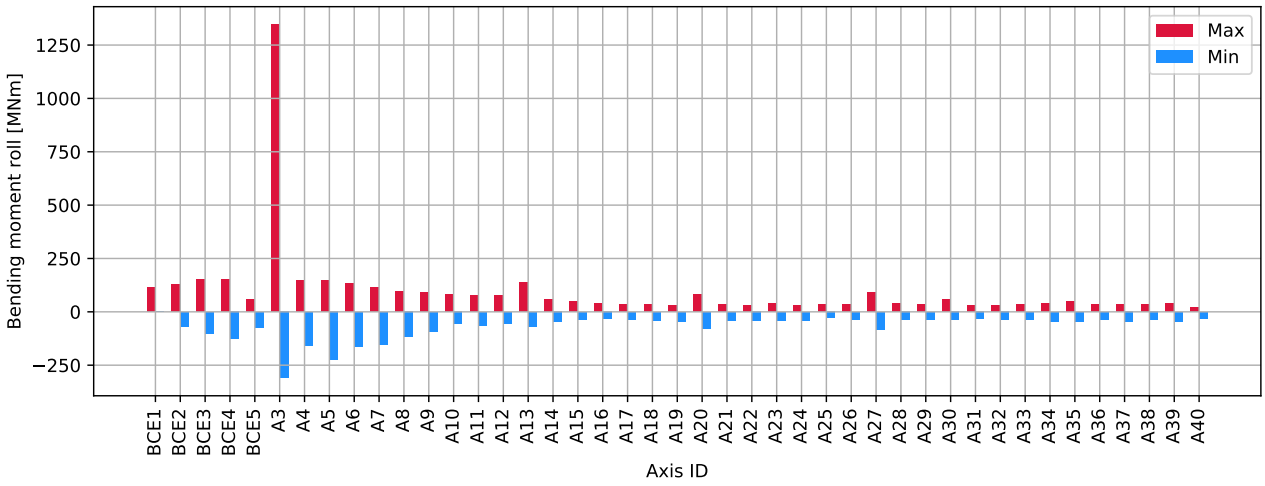

Figure 3.1257: P A3 180deg - columns bottom : Bending moment roll [MNm]

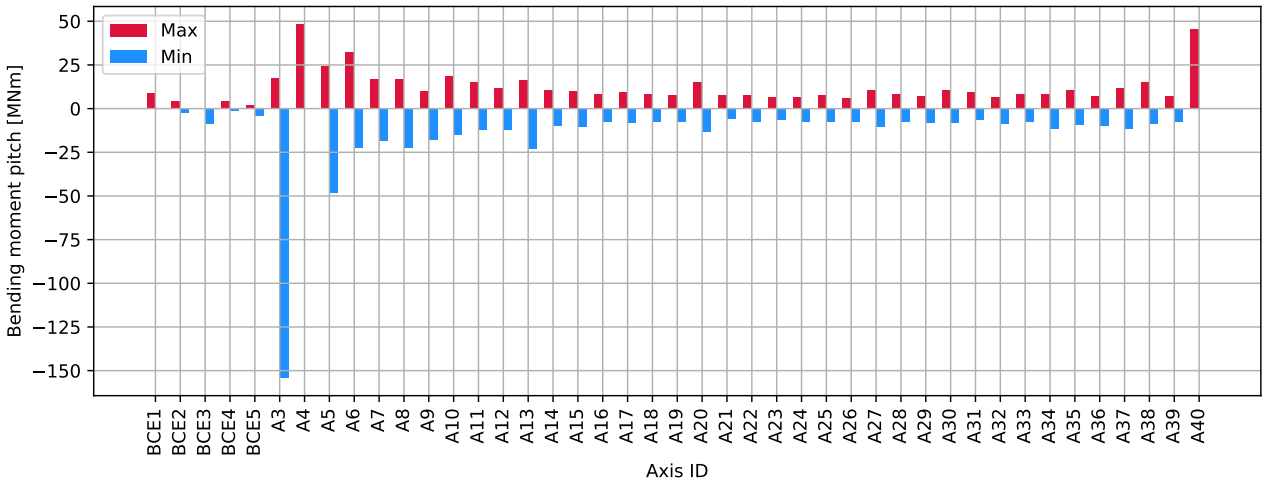

Figure 3.1258: P A3 180deg - columns bottom : Bending moment pitch [MNm]

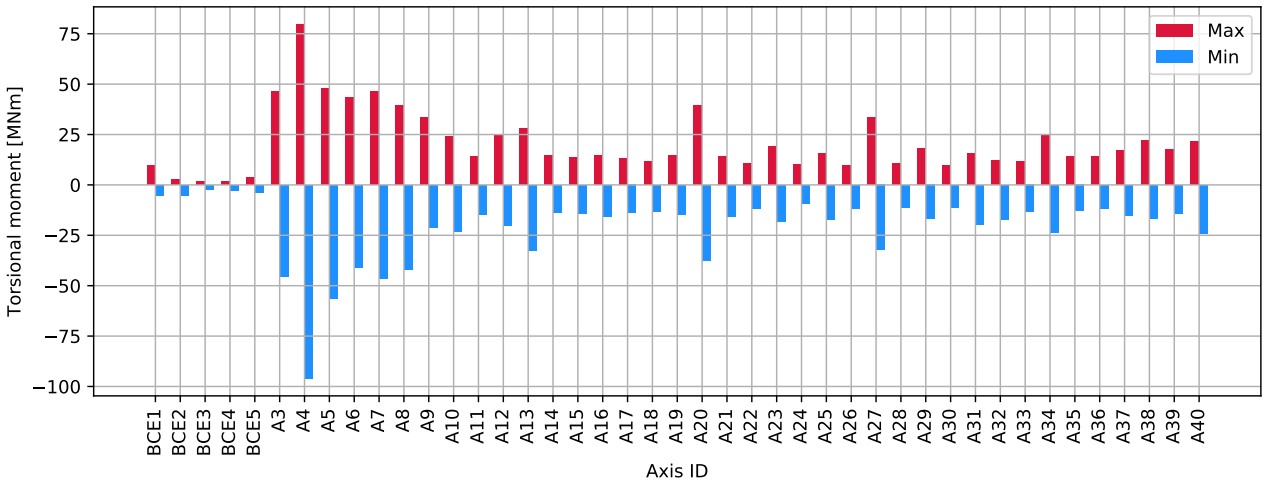

Figure 3.1259: P A3 180deg - columns bottom : Torsional moment [MNm]

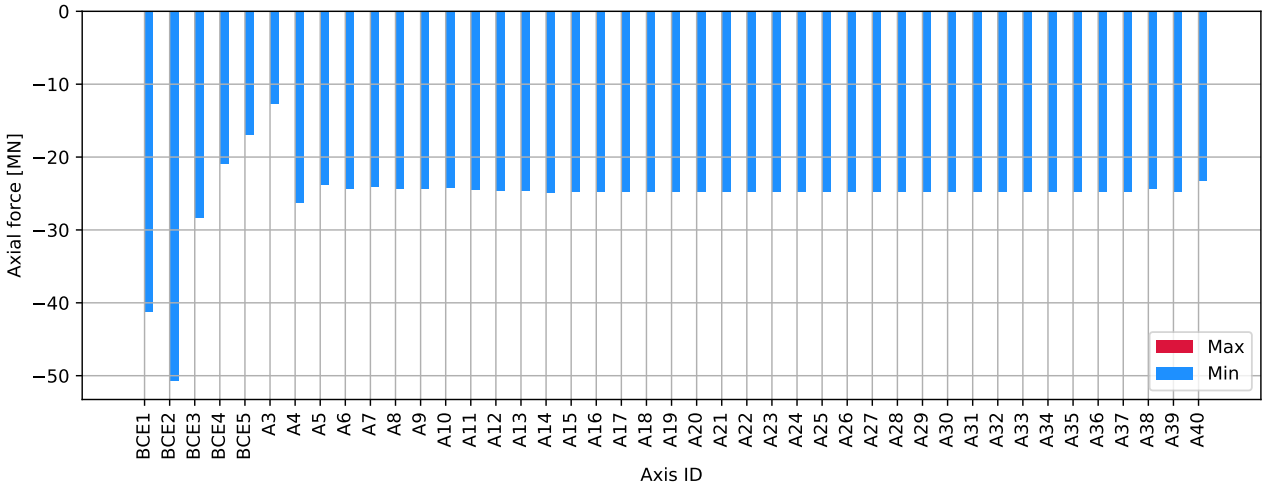

Figure 3.1260: P A3 180deg - columns top : Axial force [MN]

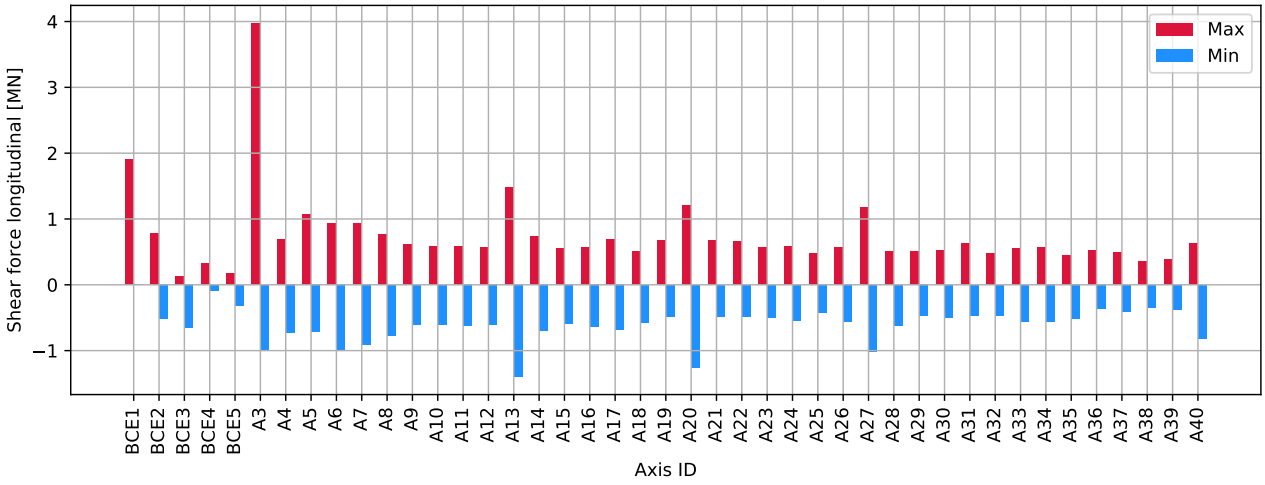

Figure 3.1261: P A3 180deg - columns top : Shear force longitudinal [MN]

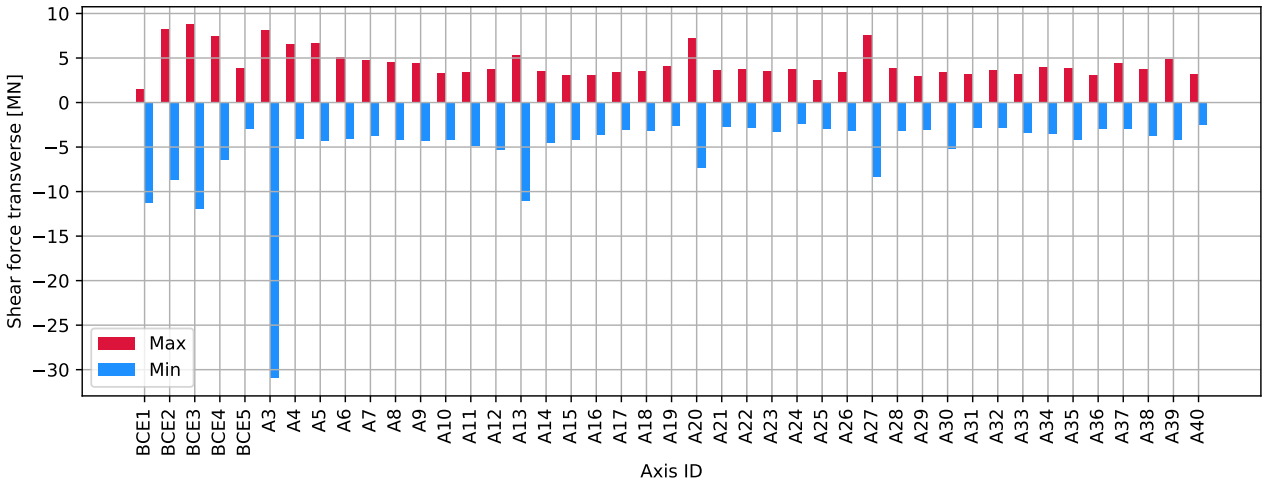

Figure 3.1262: P A3 180deg - columns top : Shear force transverse [MN]

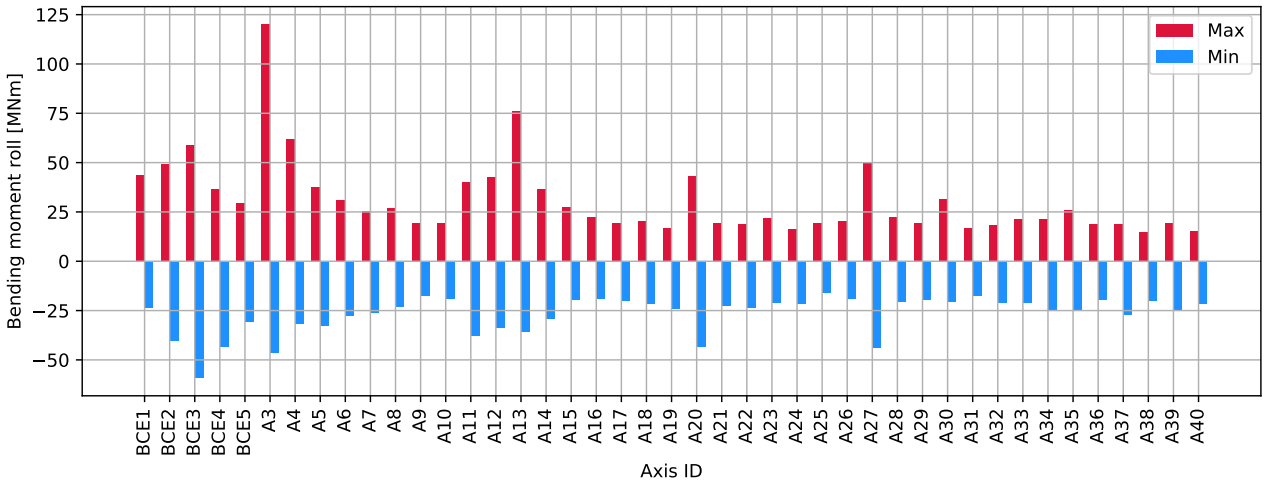

Figure 3.1263: P A3 180deg - columns top : Bending moment roll [MNm]

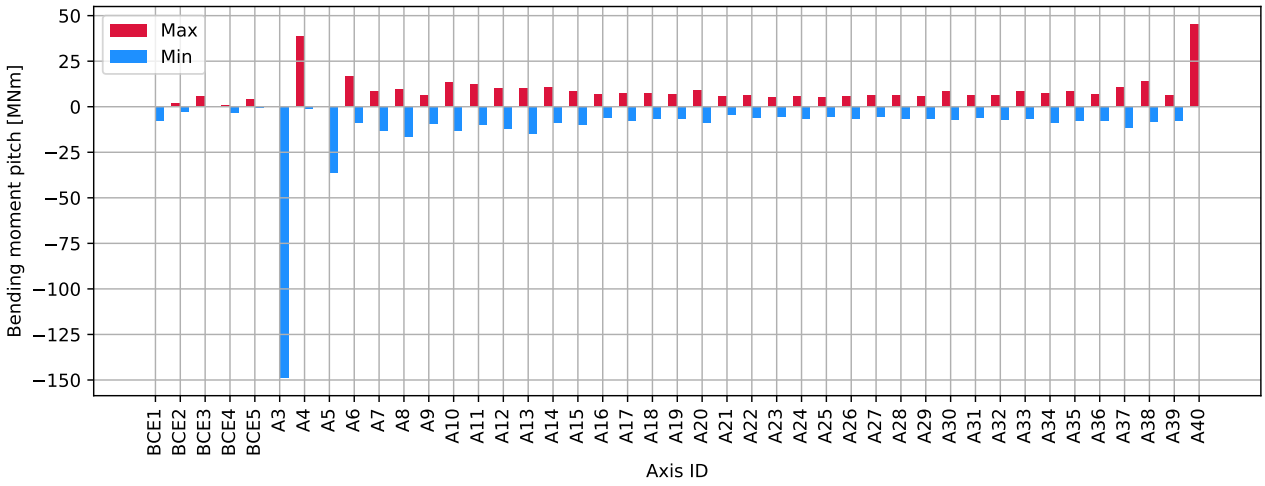

Figure 3.1264: P A3 180deg - columns top : Bending moment pitch [MNm]

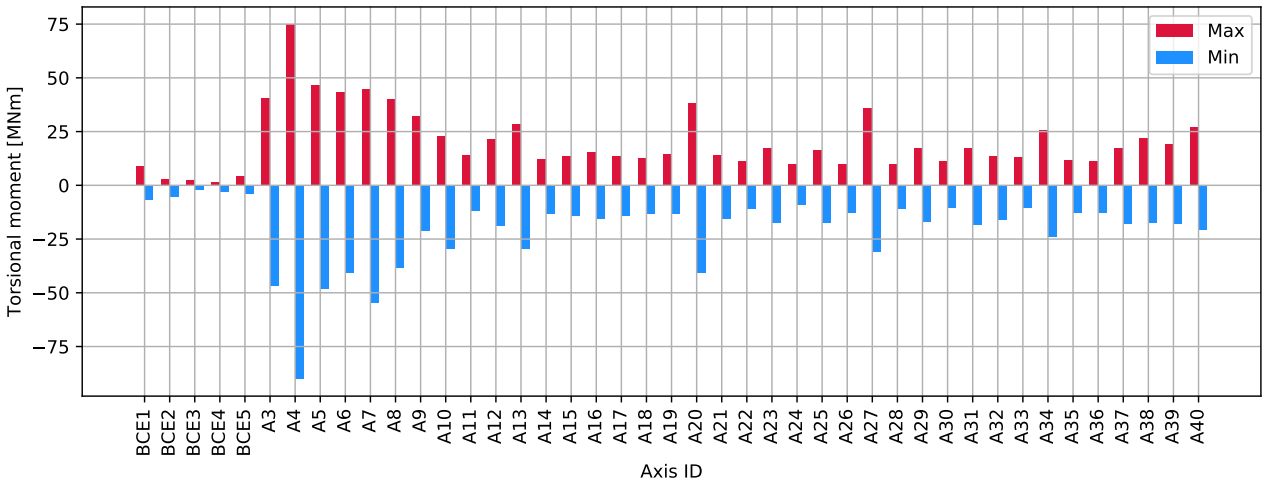

Figure 3.1265: P A3 180deg - columns top : Torsional moment [MNm]

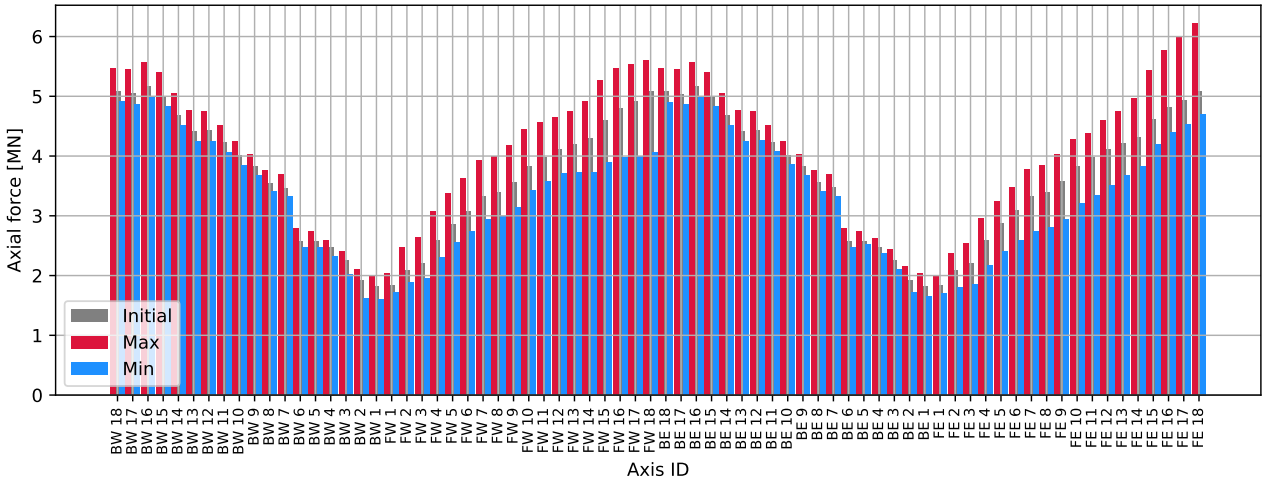

Figure 3.1266: P A3 180deg - cables : Axial force [MN]

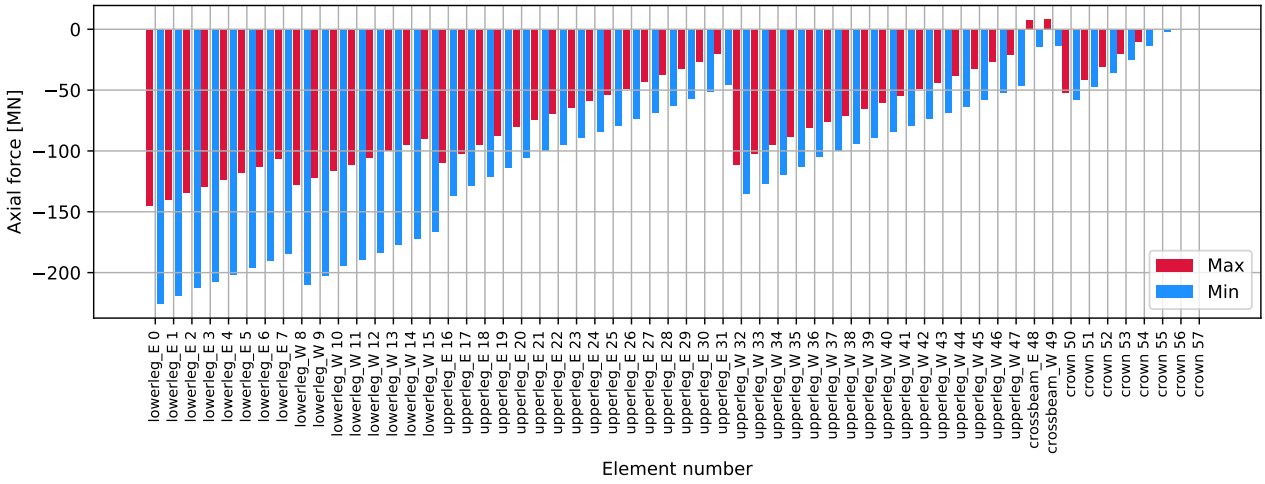

Figure 3.1267: P A3 180deg - tower: Axial force [MN]

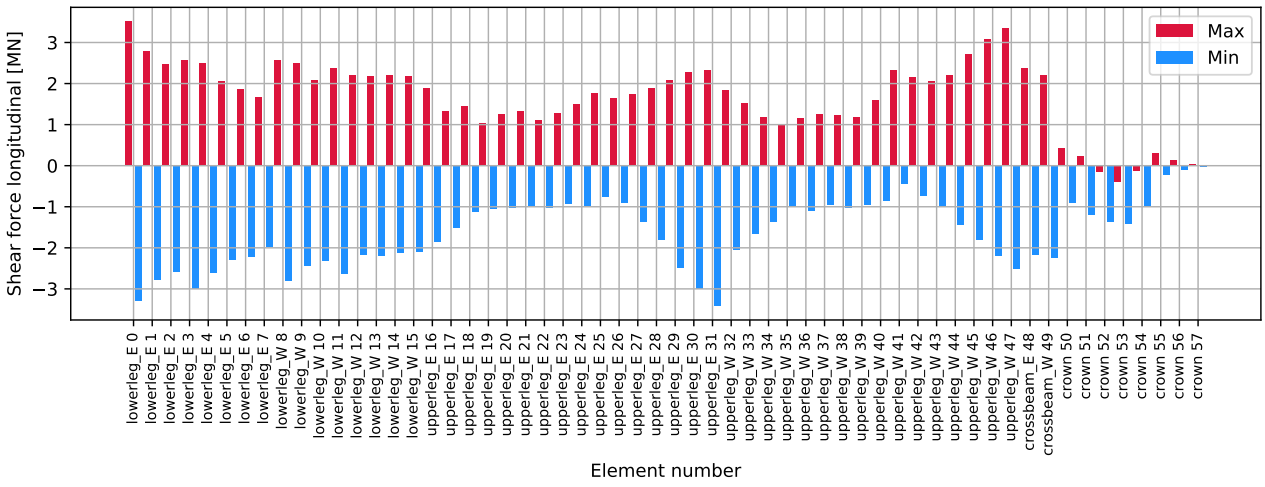

Figure 3.1268: P A3 180deg - tower: Shear force longitudinal [MN]

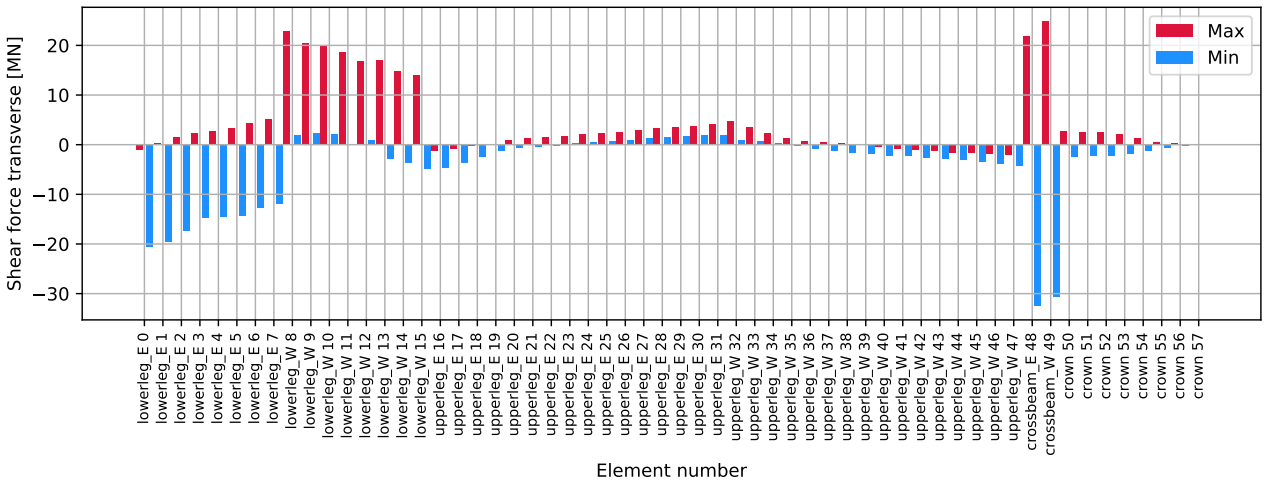

Figure 3.1269: P A3 180deg - tower: Shear force transverse [MN]

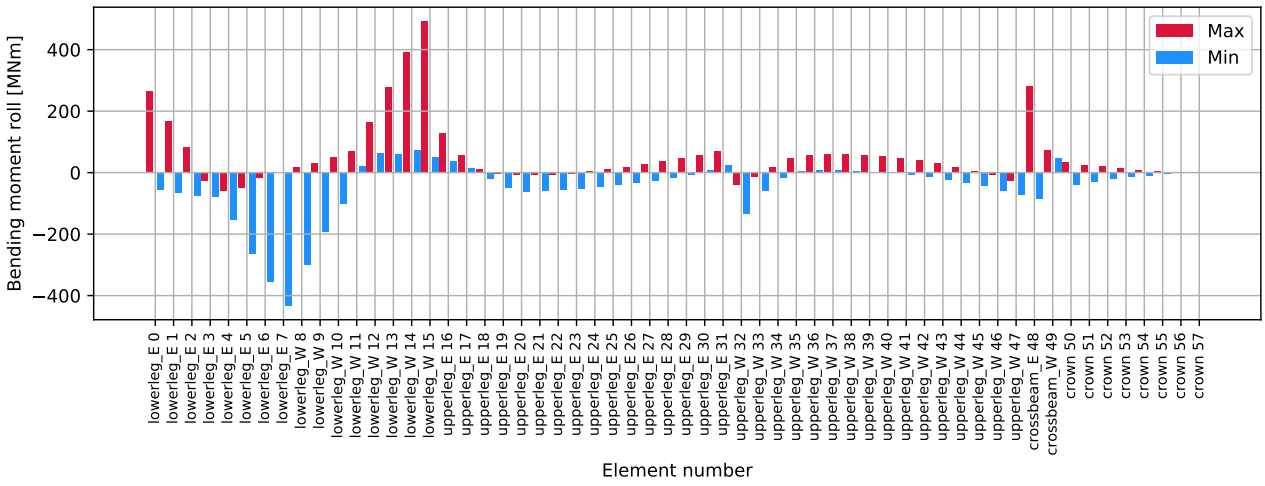

Figure 3.1270: P A3 180deg - tower: Bending moment roll [MNm]

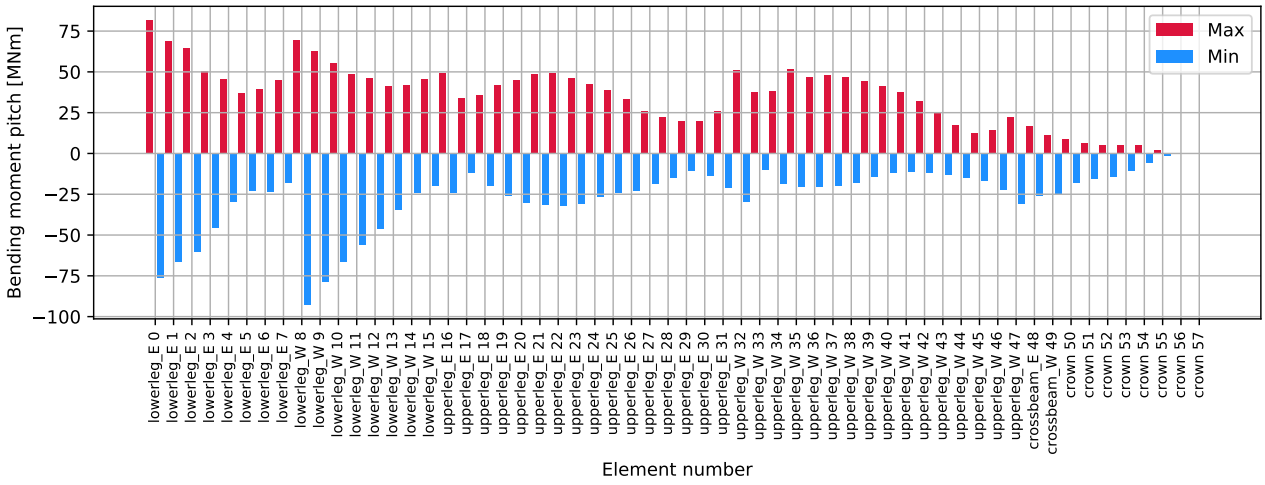

Figure 3.1271: P A3 180deg - tower: Bending moment pitch [MNm]

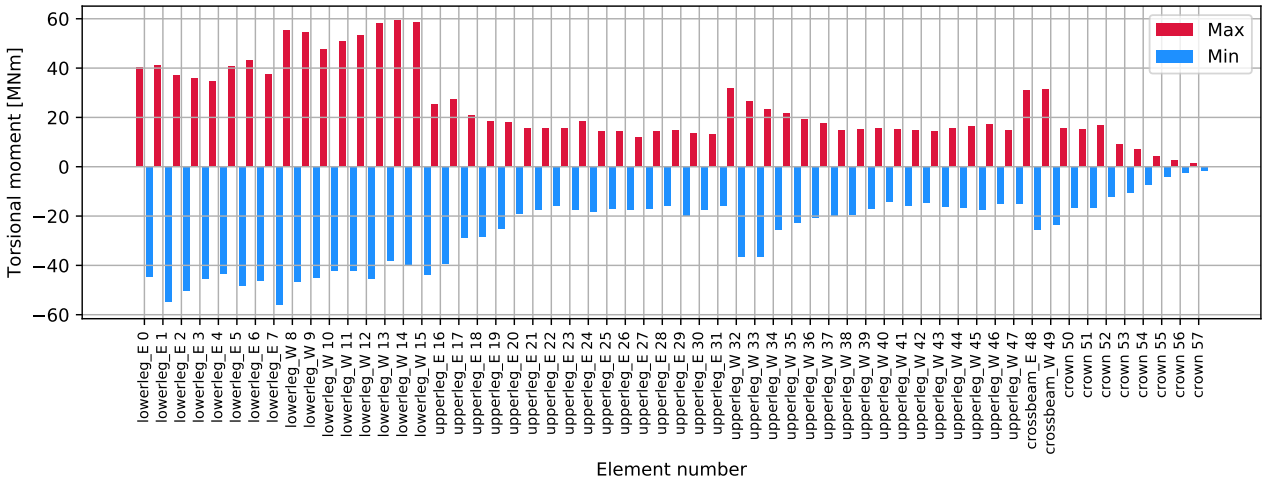

Figure 3.1272: P A3 180deg - tower: Torsional moment [MNm]

3.28.3 Time series

Note : Time series are filtered using a Saviotzky-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

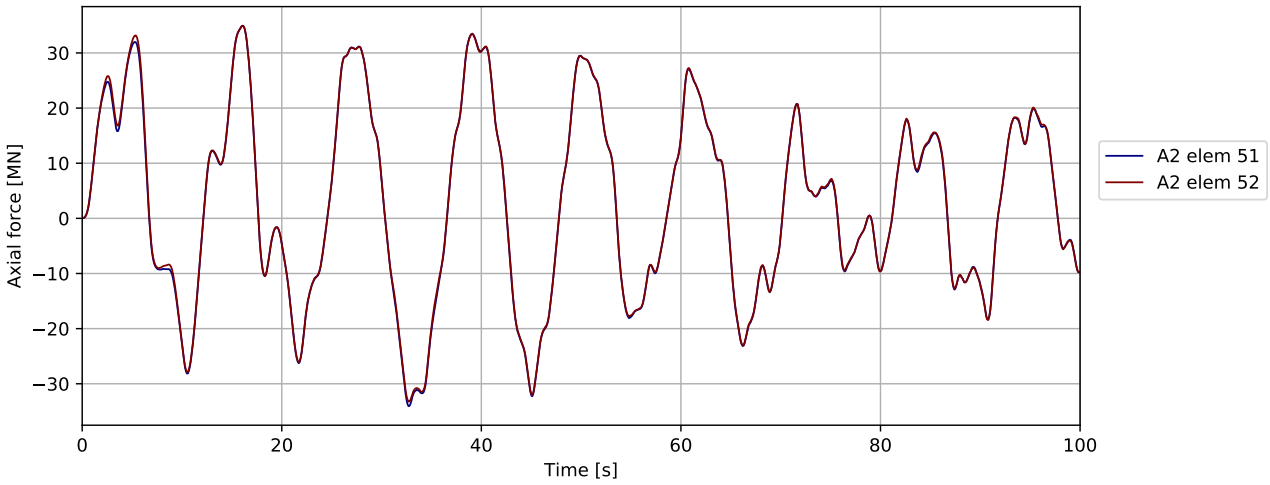

Figure 3.1273: P A3 180deg - bridgegirder @ pylon: Axial force [MN]

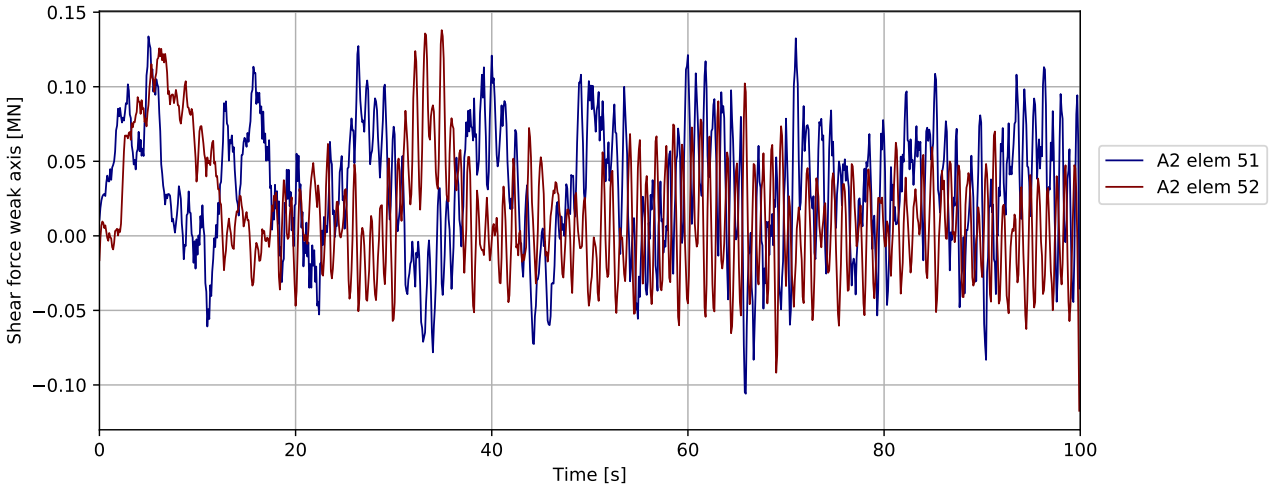

Figure 3.1274: P A3 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

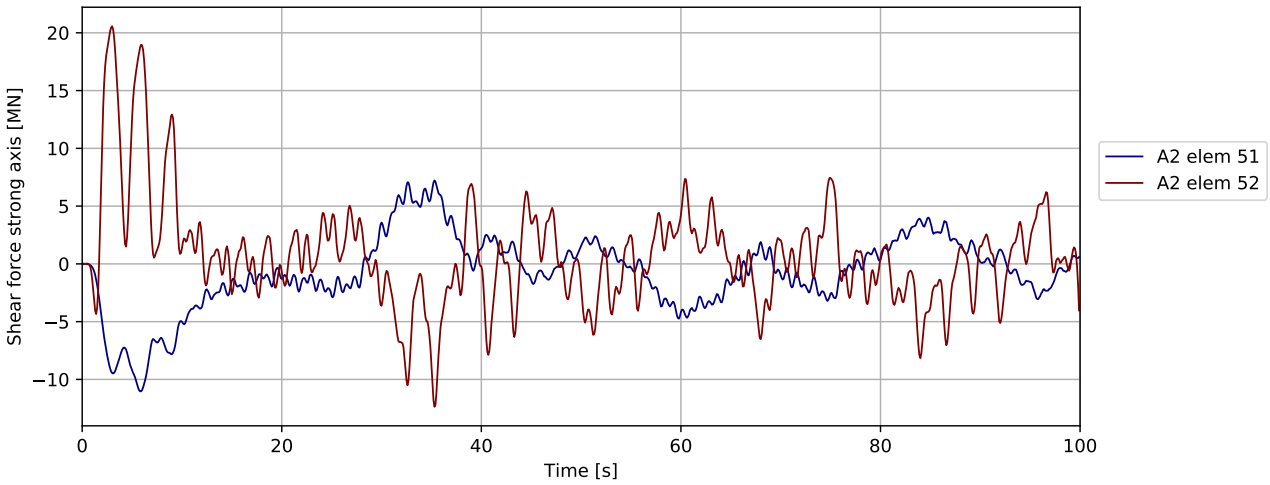

Figure 3.1275: P A3 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

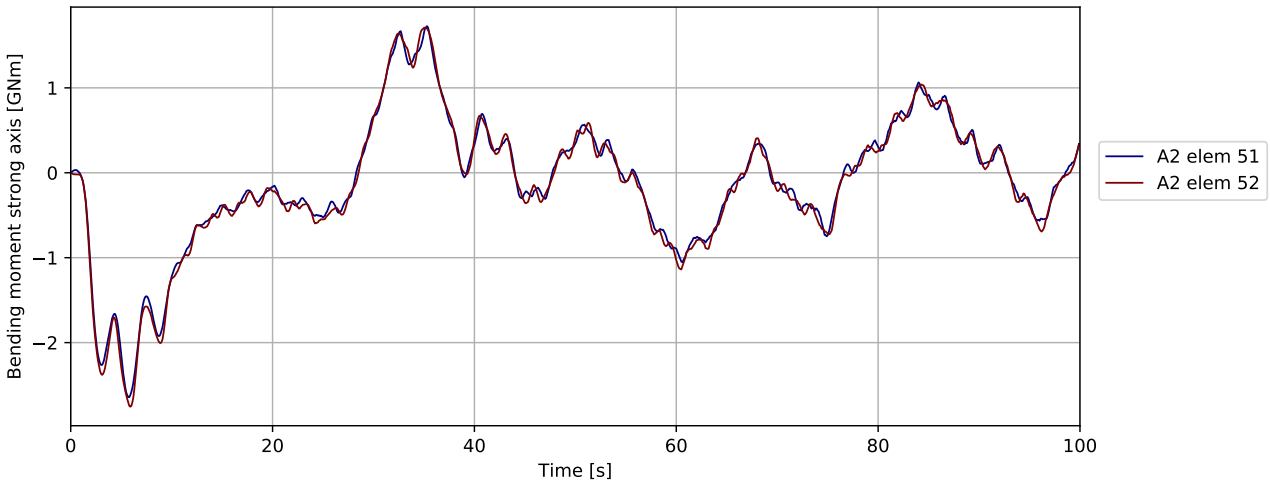

Figure 3.1276: P A3 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

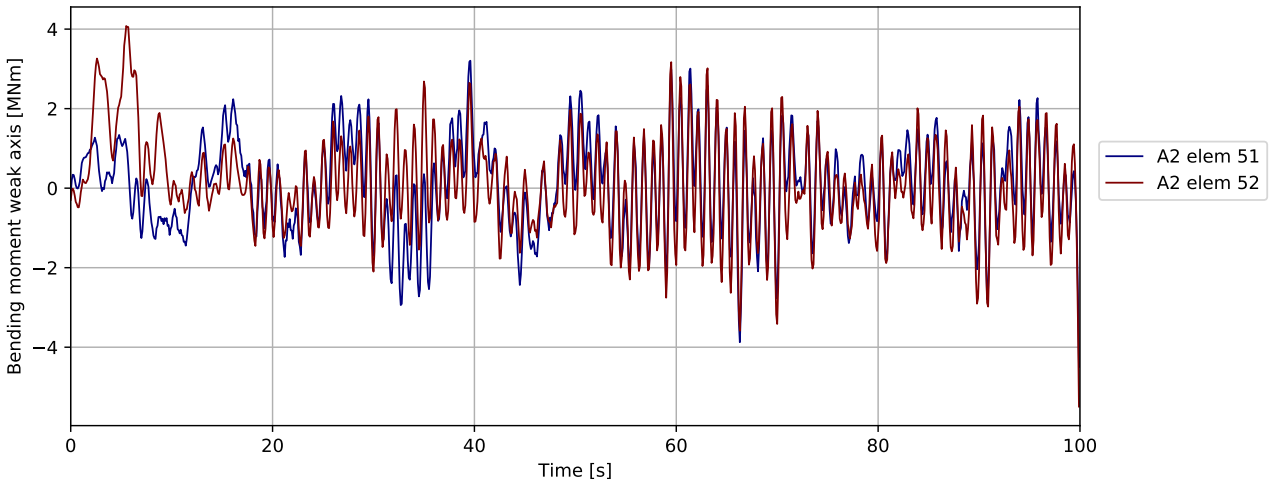

Figure 3.1277: P A3 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

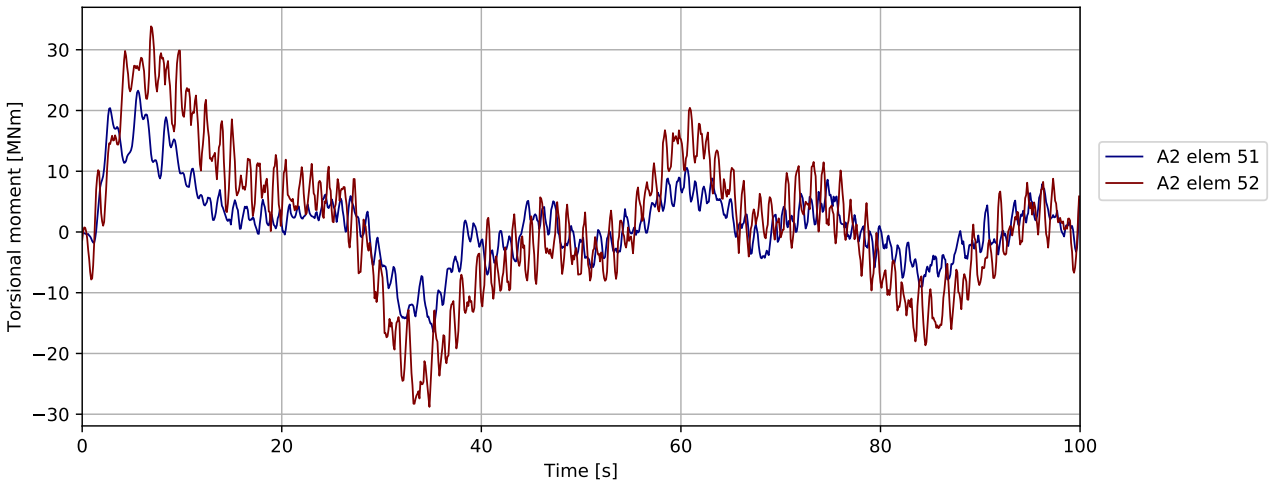

Figure 3.1278: P A3 180deg - bridgegirder @ pylon: Torsional moment [MNm]

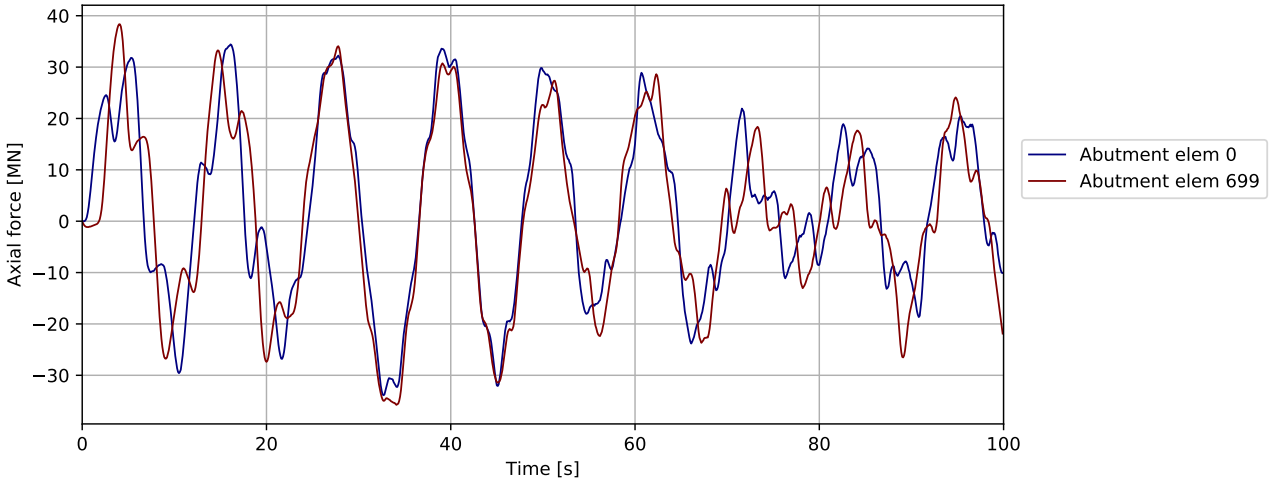

Figure 3.1279: P A3 180deg - bridgegirder @abutments: Axial force [MN]

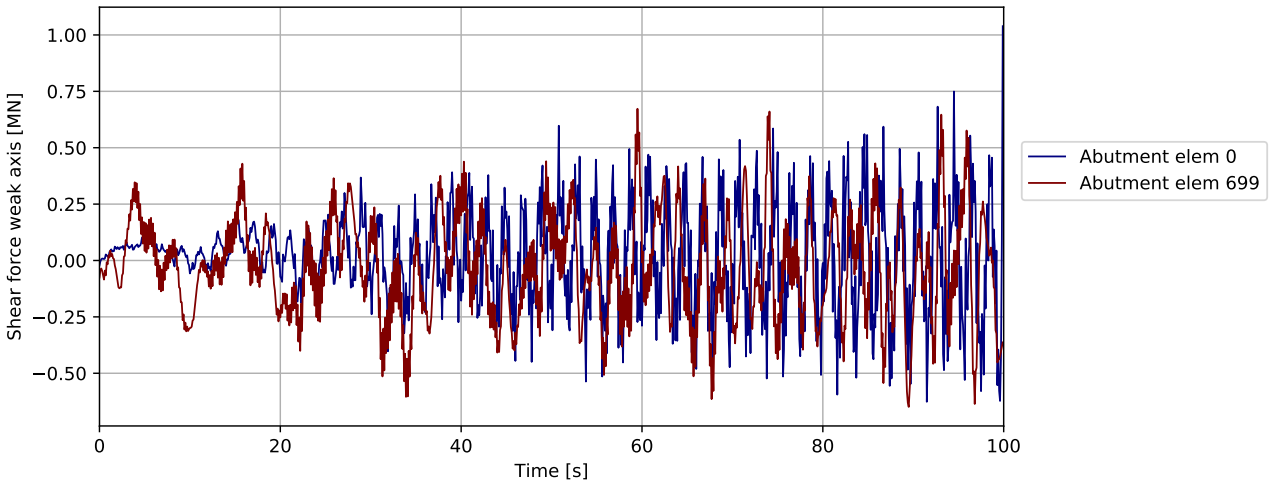

Figure 3.1280: P A3 180deg - bridgegirder @abutments: Shear force weak axis [MN]

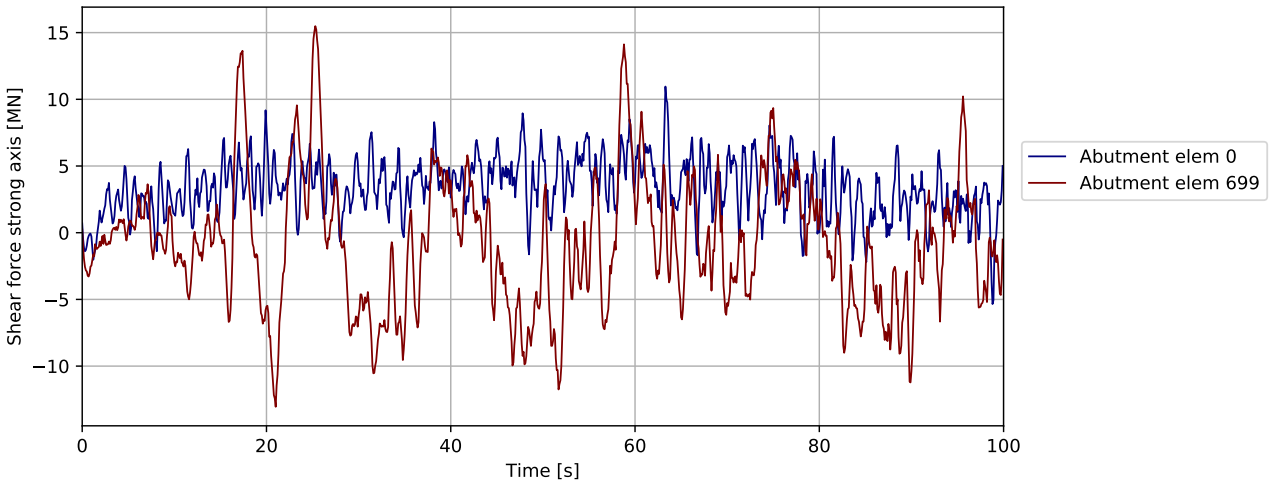

Figure 3.1281: P A3 180deg - bridgegirder @abutments: Shear force strong axis [MN]

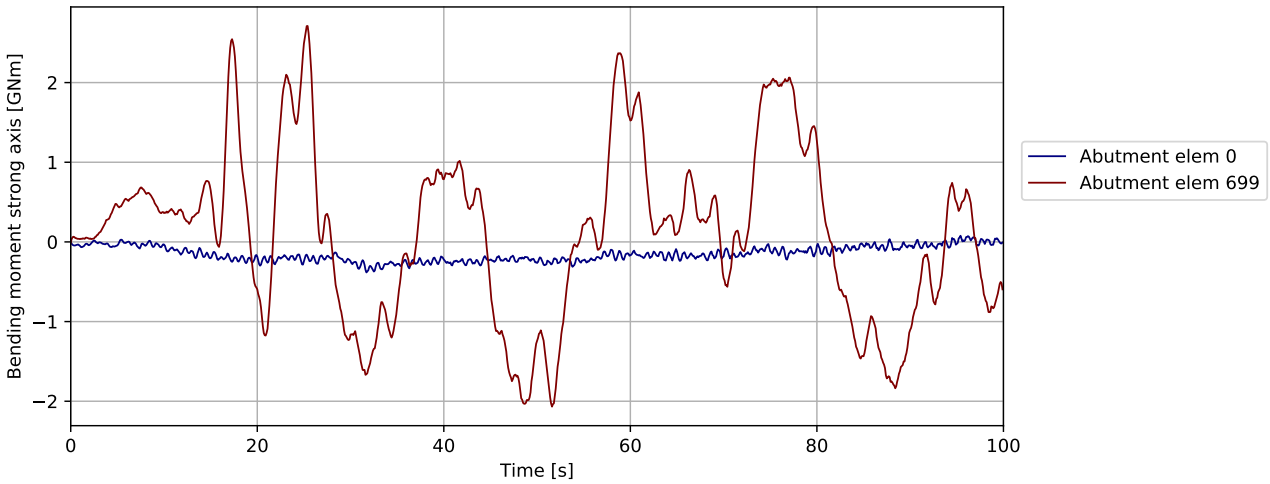

Figure 3.1282: P A3 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

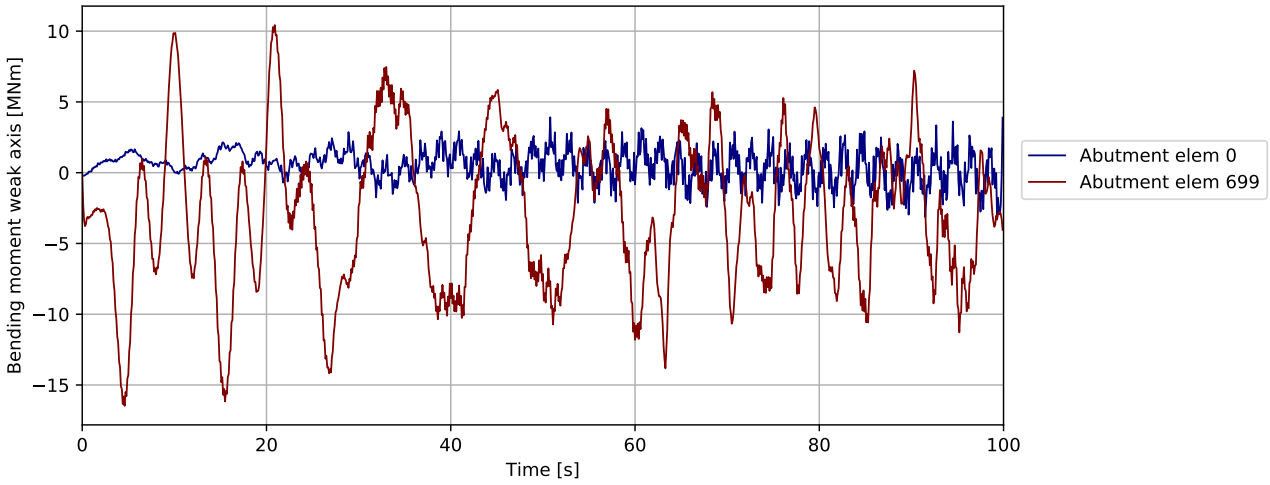

Figure 3.1283: P A3 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

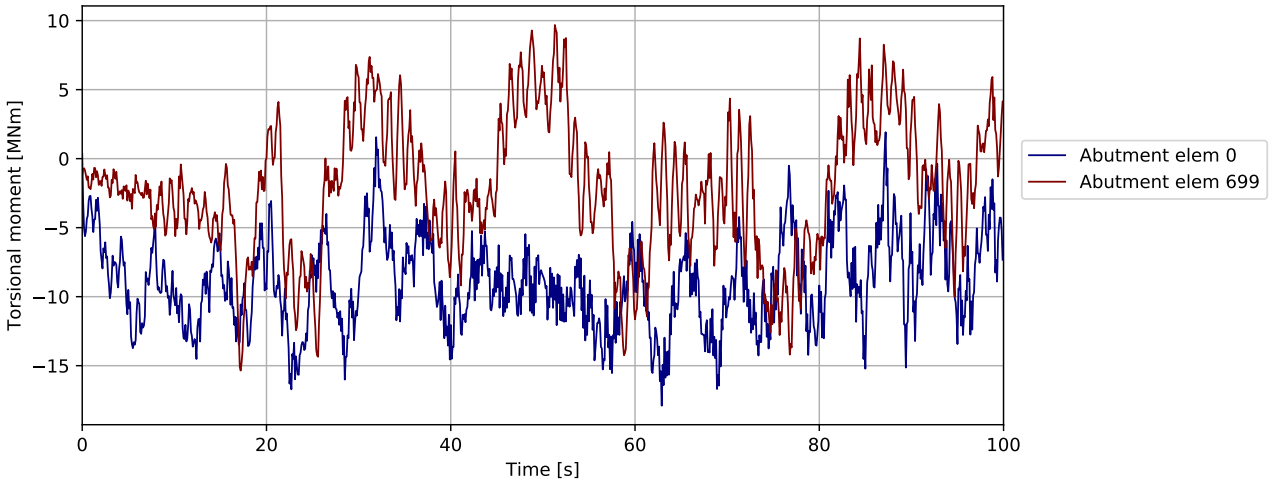

Figure 3.1284: P A3 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

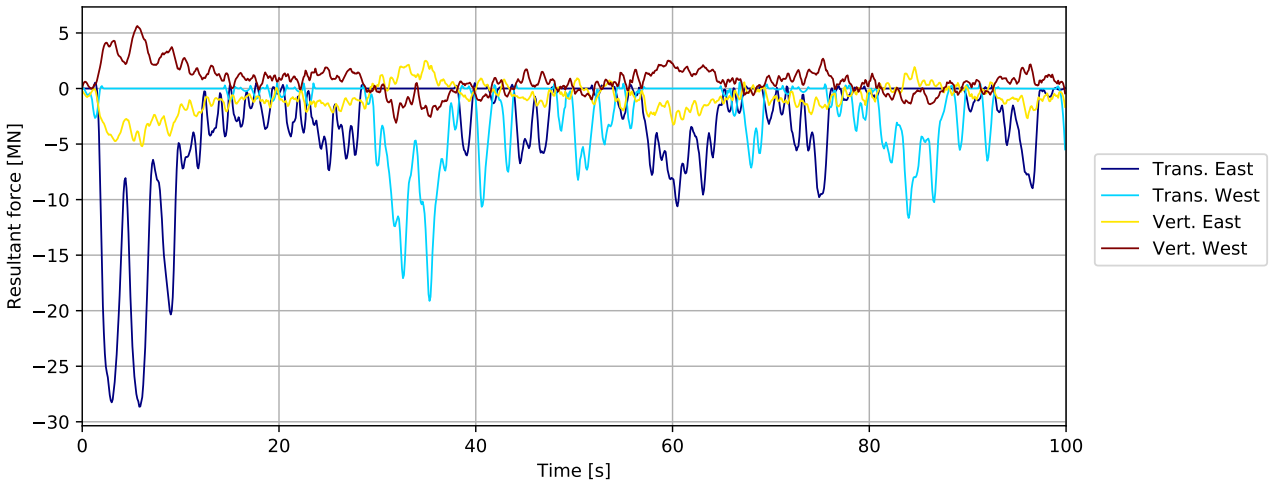

Figure 3.1285: P A3 180deg - bridgegirder supports in tower: Resultant force [MN]

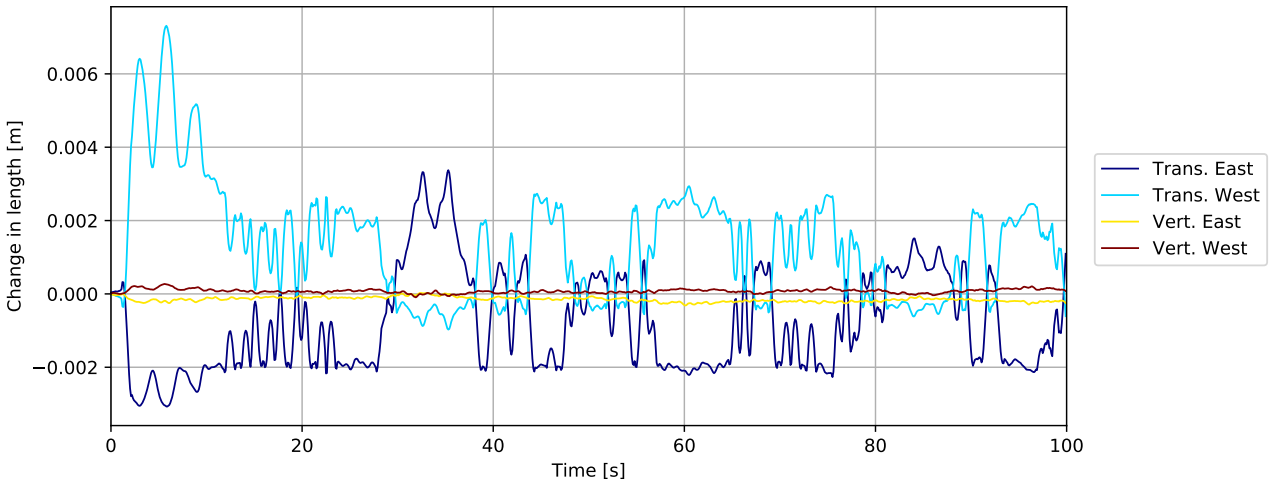

Figure 3.1286: P A3 180deg - bridgegirder supports in tower: Change in length [m]

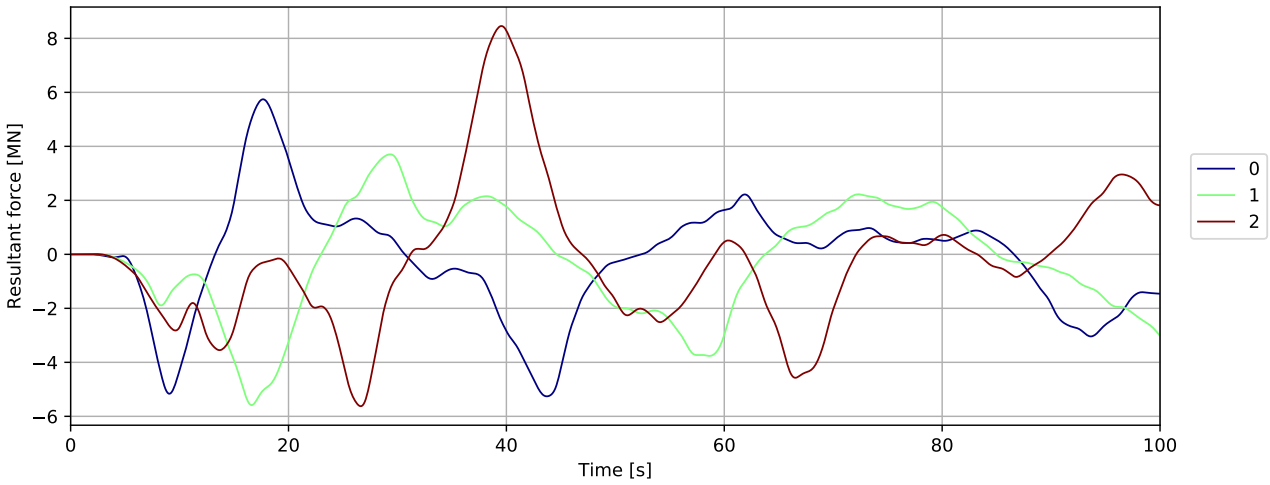

Figure 3.1287: Mooring force

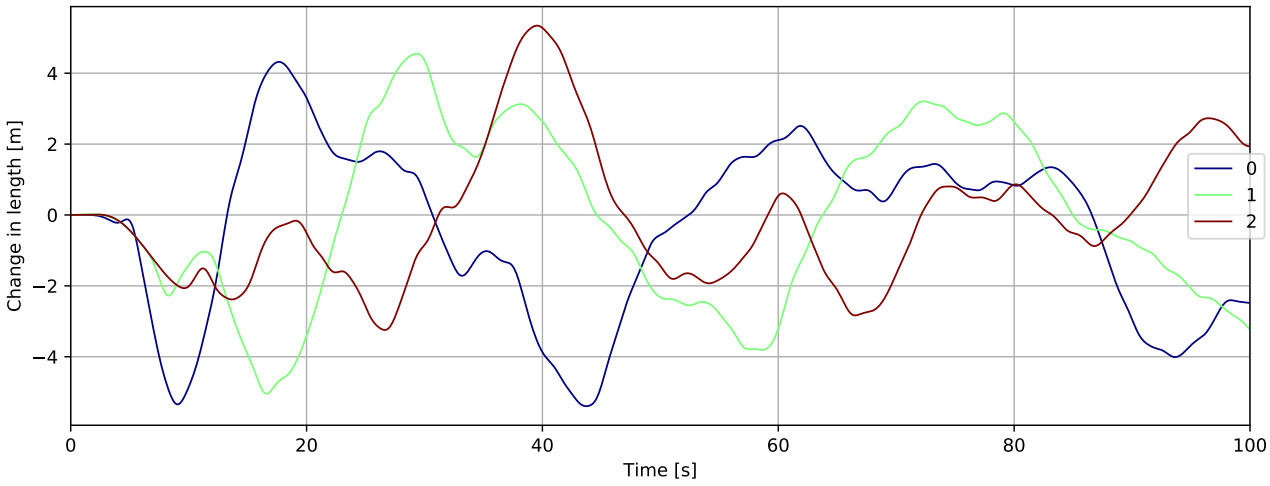

Figure 3.1288: Mooring displacement

3.29 PontoonA4 180deg

3.29.1 Overall response

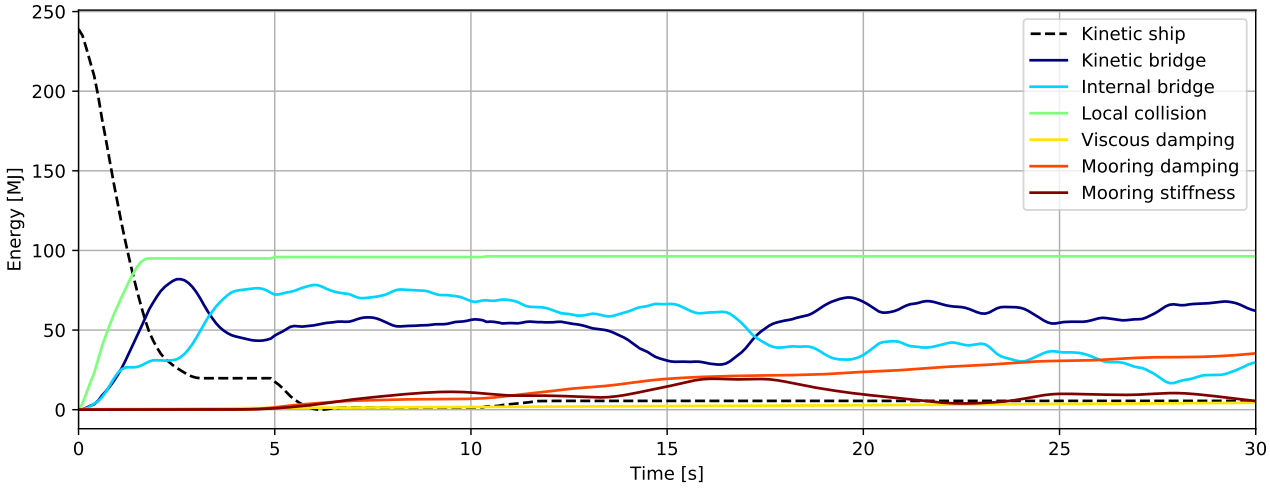

Figure 3.1289: Energy [MJ] - initial phase

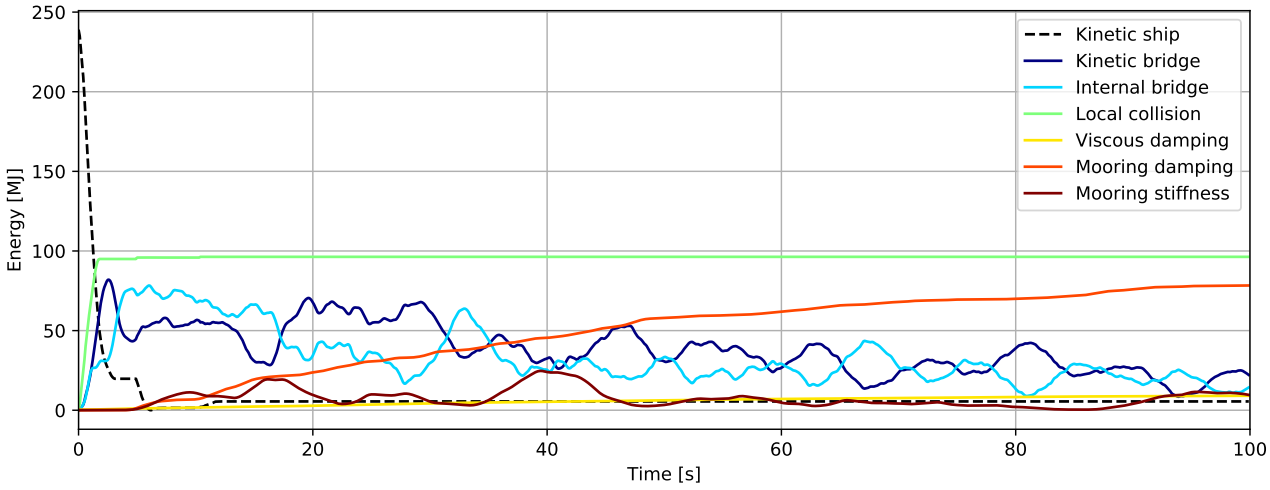

Figure 3.1290: Energy [MJ]

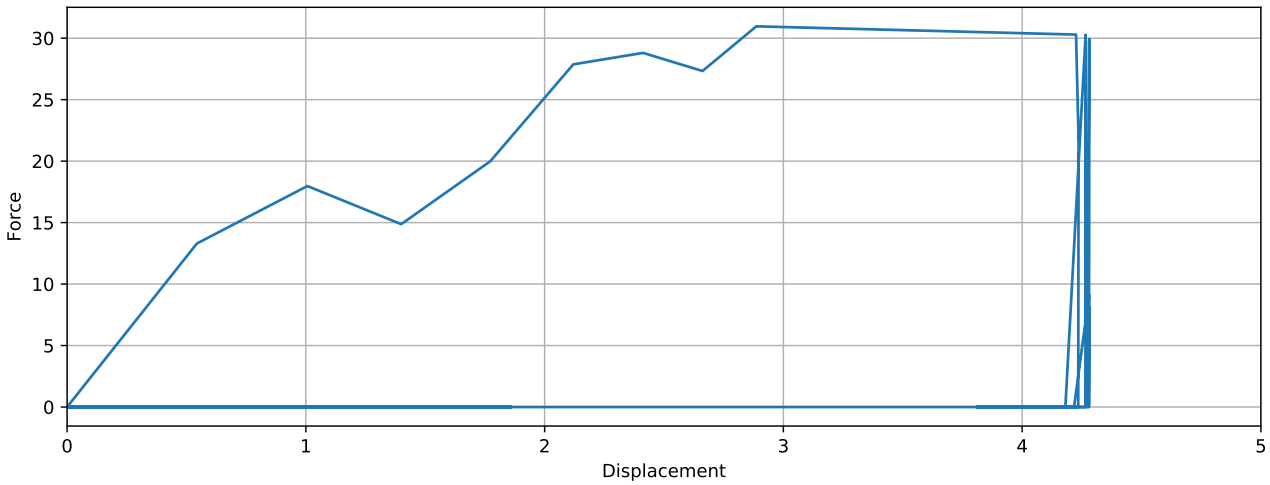

Figure 3.1291: Simulated local collision force-displacement

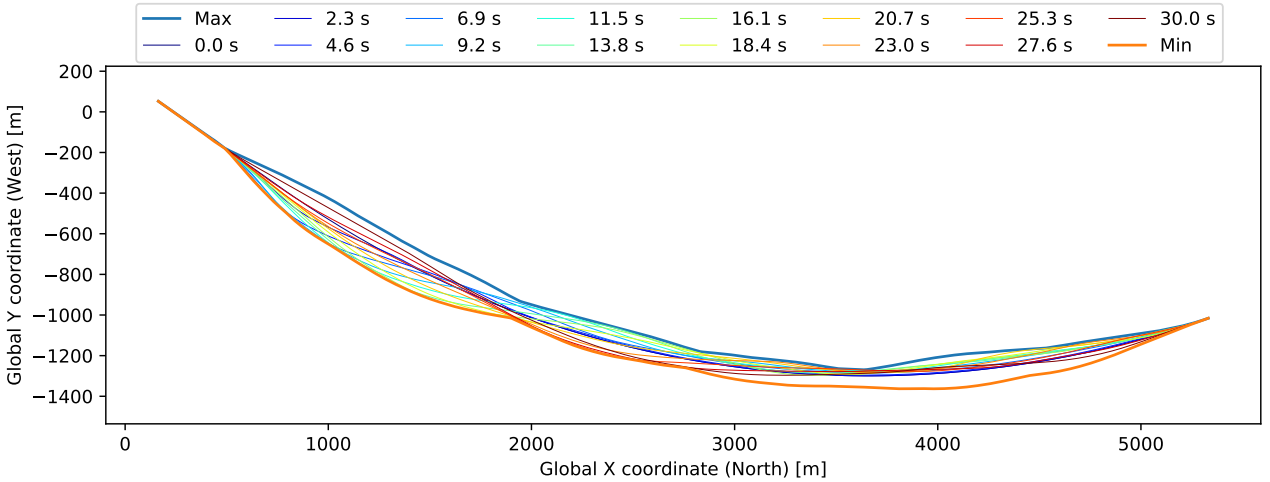

Figure 3.1292: Bridgegirder deflection (10x displacment scaling)

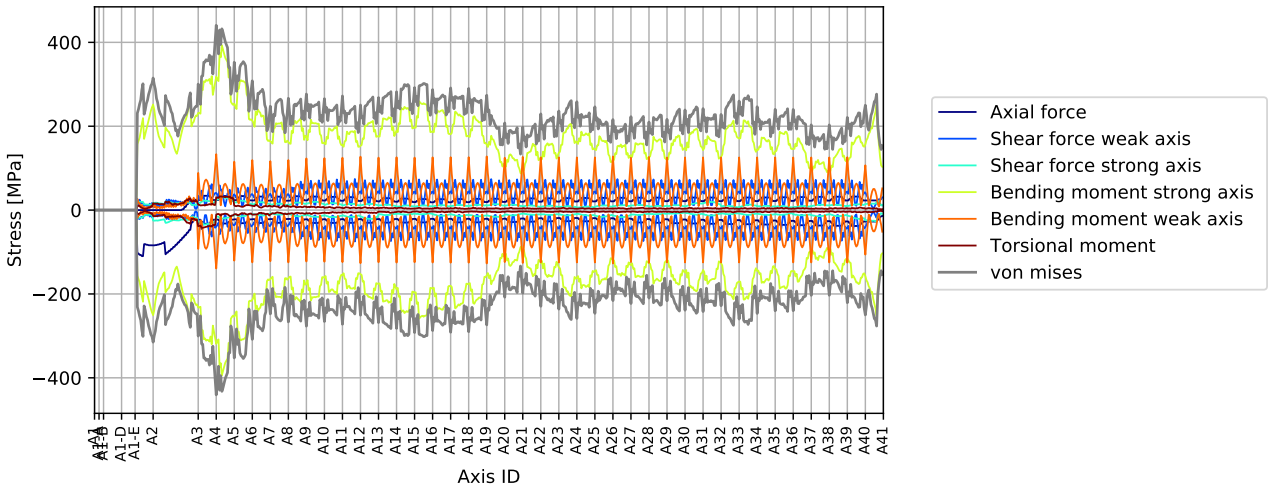

Figure 3.1293: Stress envelope from all force components

3.29.2 Envelope plots

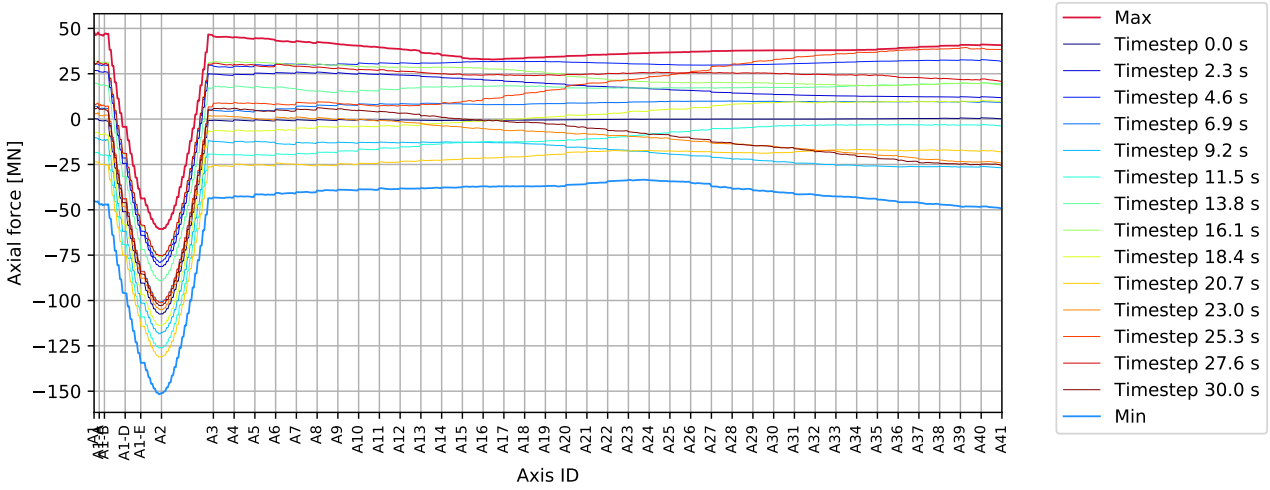

Figure 3.1294: P A4 180deg - bridgegirder : Axial force [MN]

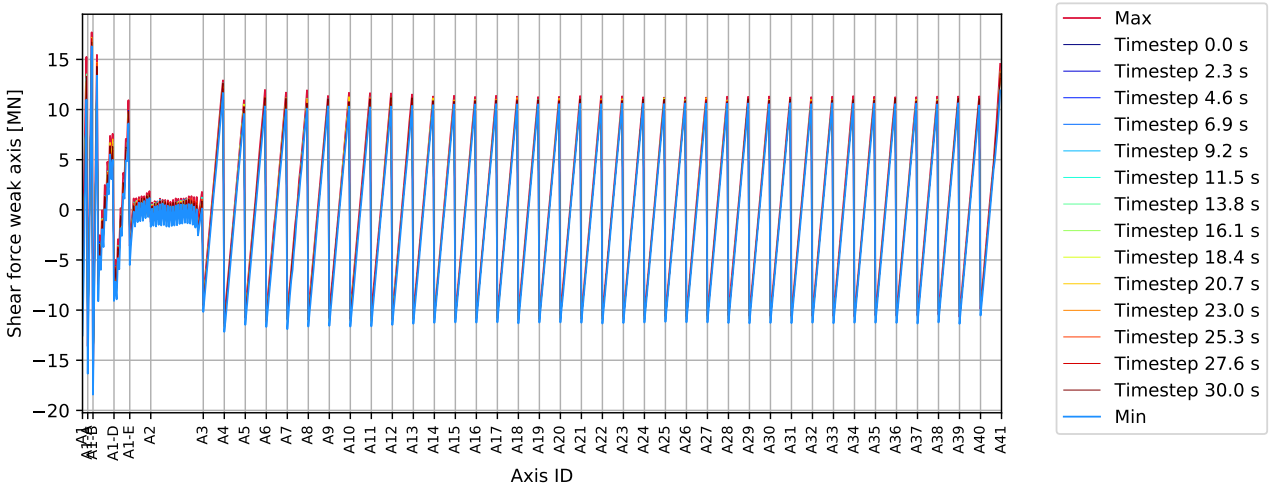

Figure 3.1295: P A4 180deg - bridgegirder : Shear force weak axis [MN]

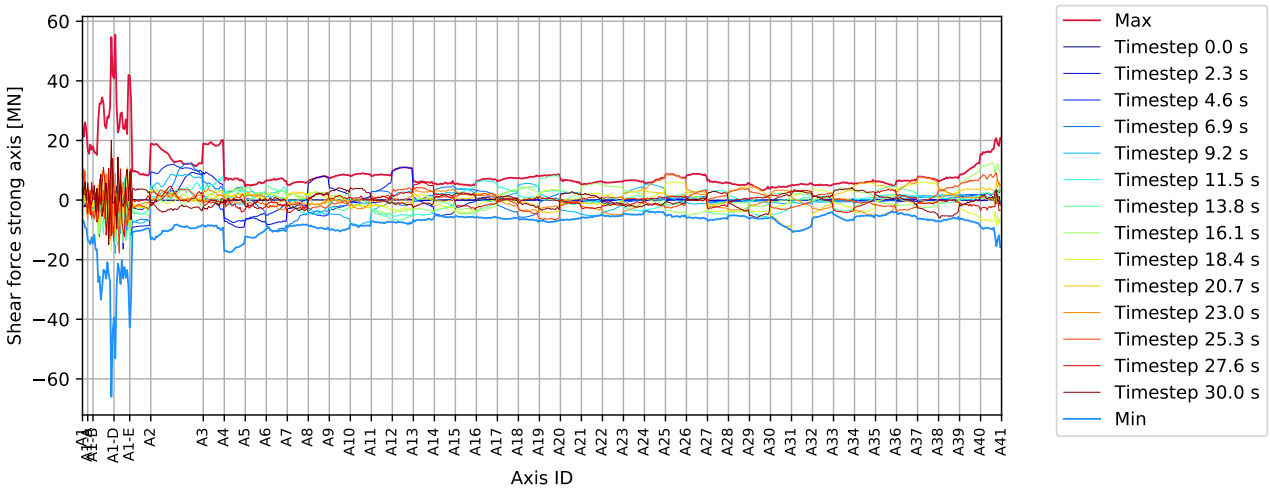

Figure 3.1296: P A4 180deg - bridgegirder : Shear force strong axis [MN]

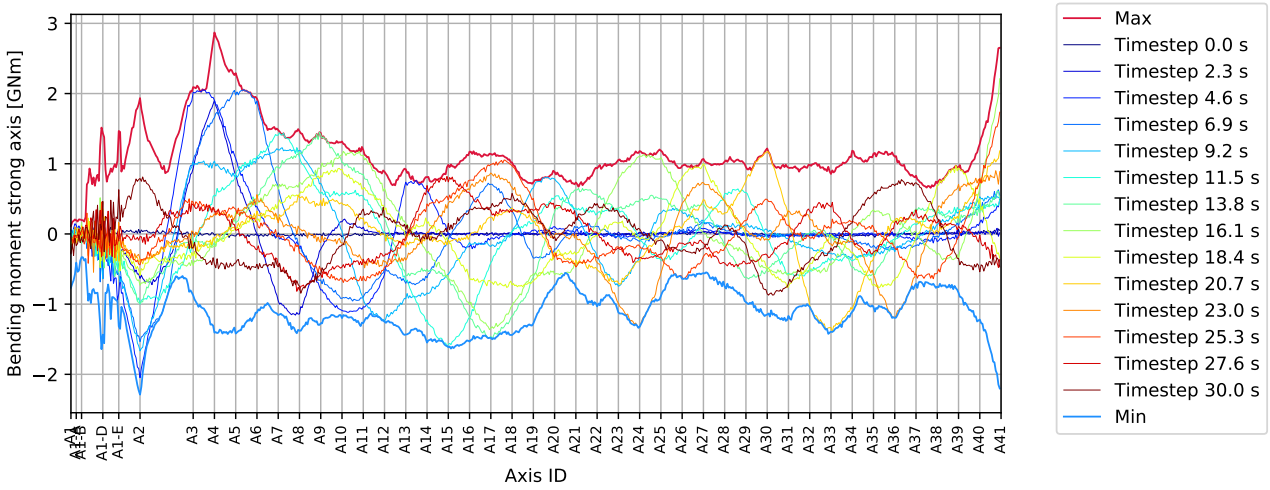

Figure 3.1297: P A4 180deg - bridgegirder : Bending moment strong axis [GNm]

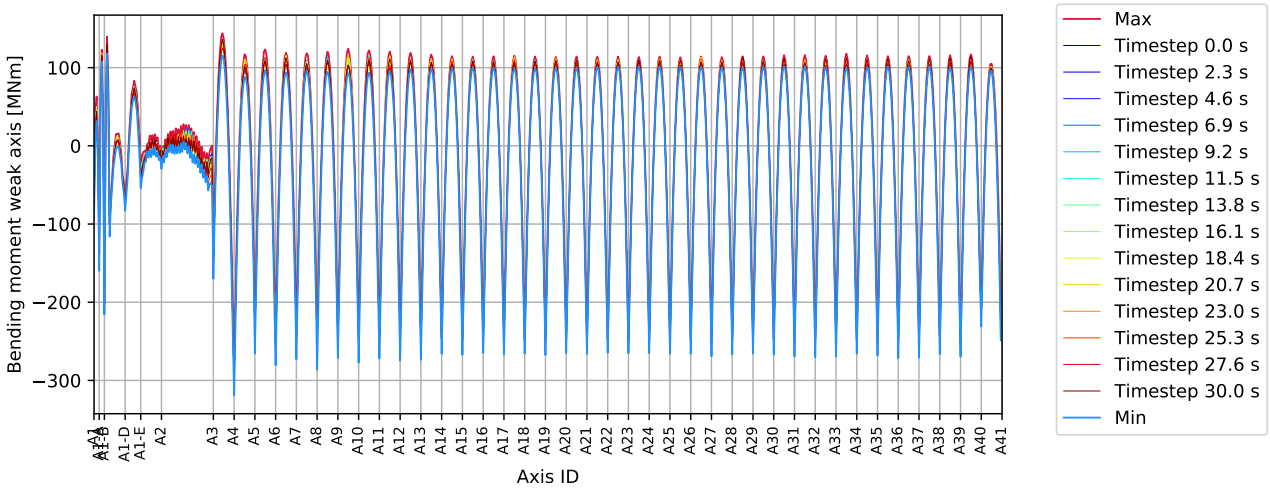

Figure 3.1298: P A4 180deg - bridgegirder : Bending moment weak axis [MNm]

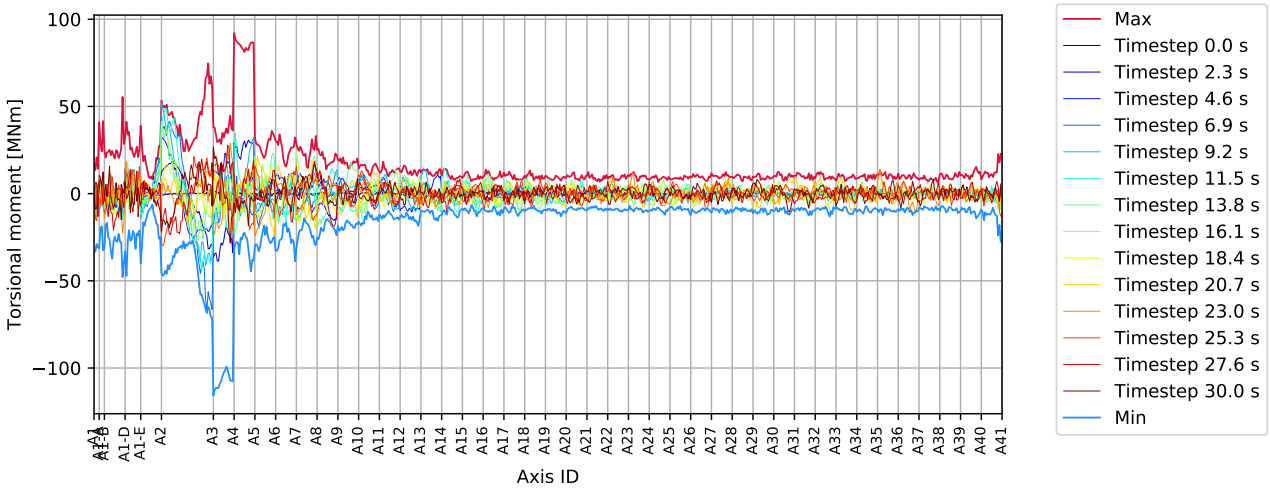

Figure 3.1299: P A4 180deg - bridgegirder : Torsional moment [MNm]

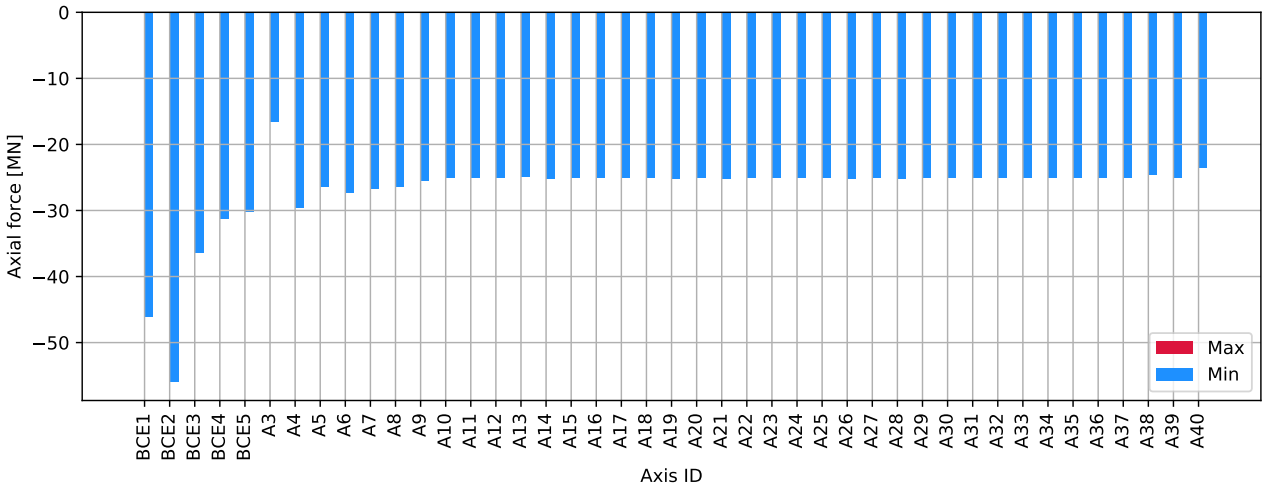

Figure 3.1300: P A4 180deg - columns bottom : Axial force [MN]

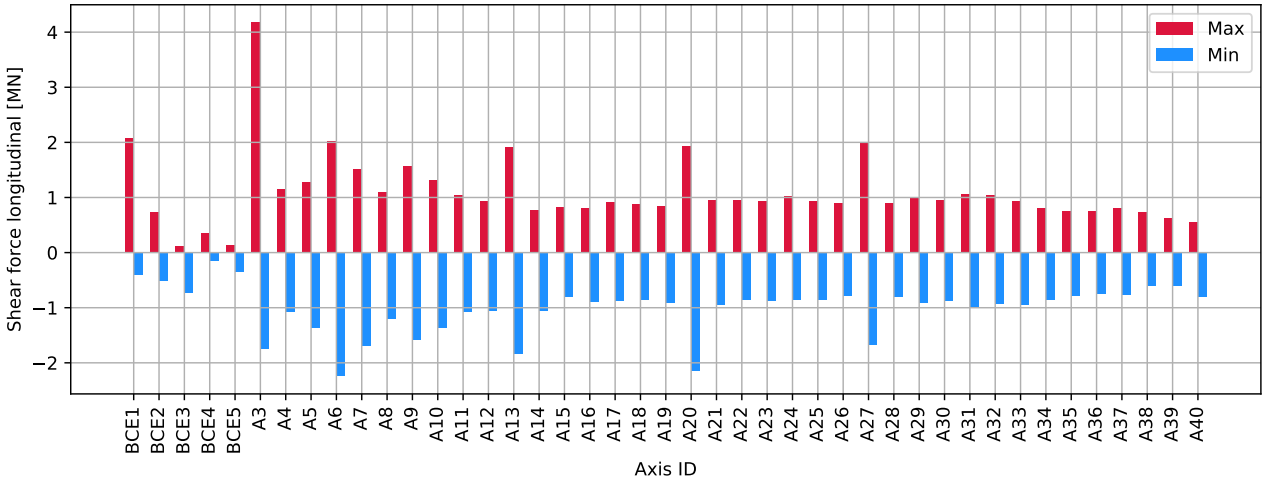

Figure 3.1301: P A4 180deg - columns bottom : Shear force longitudinal [MN]

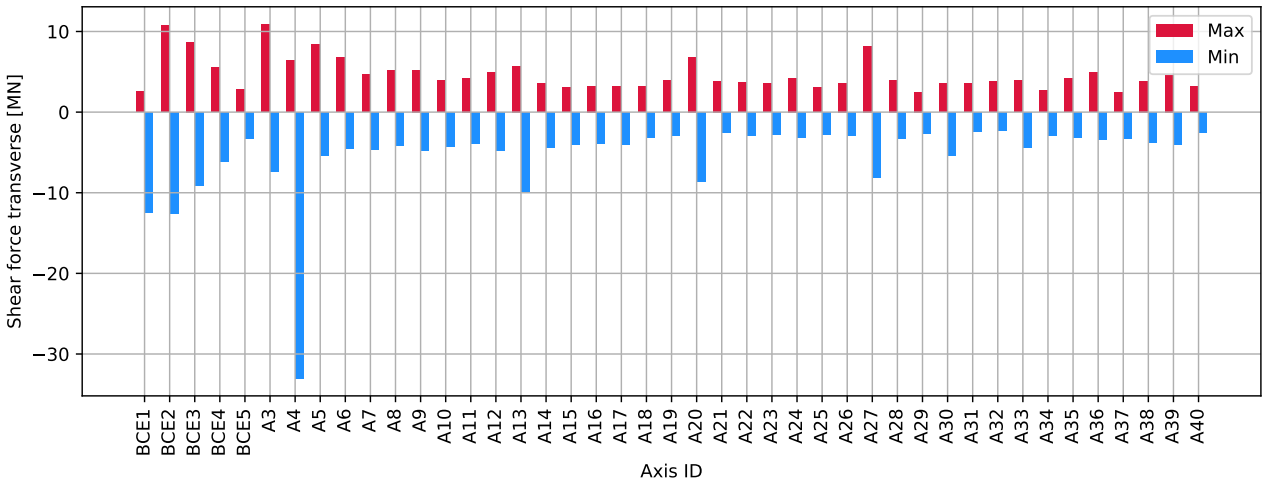

Figure 3.1302: P A4 180deg - columns bottom : Shear force transverse [MN]

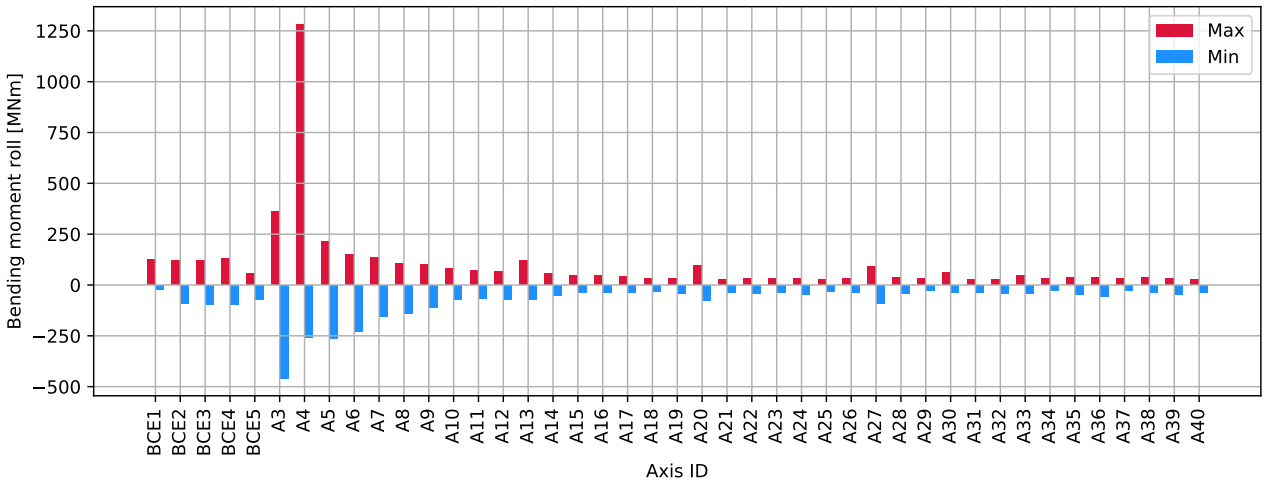

Figure 3.1303: P A4 180deg - columns bottom : Bending moment roll [MNm]

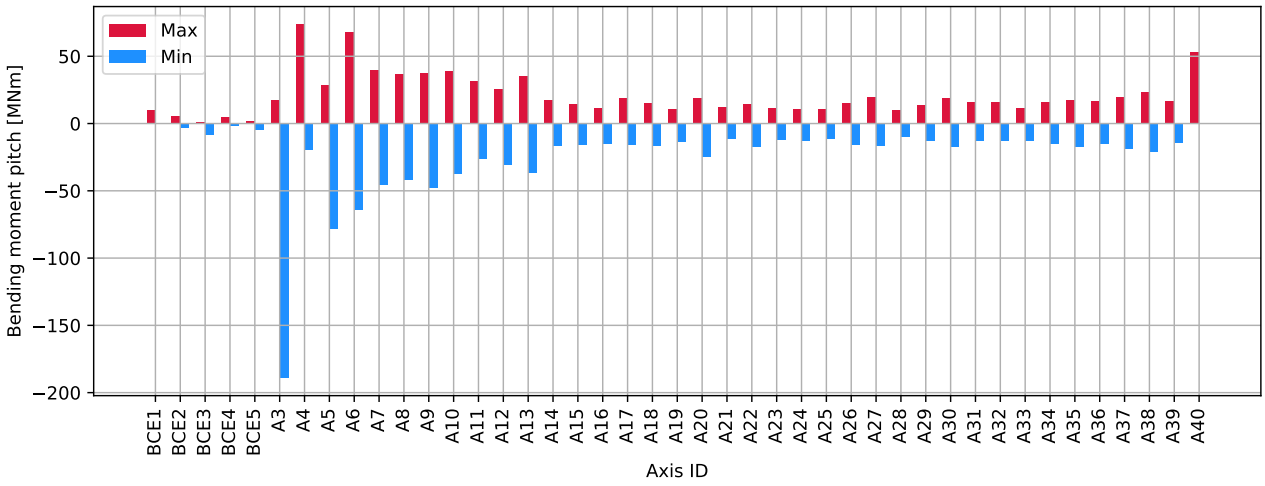

Figure 3.1304: P A4 180deg - columns bottom : Bending moment pitch [MNm]

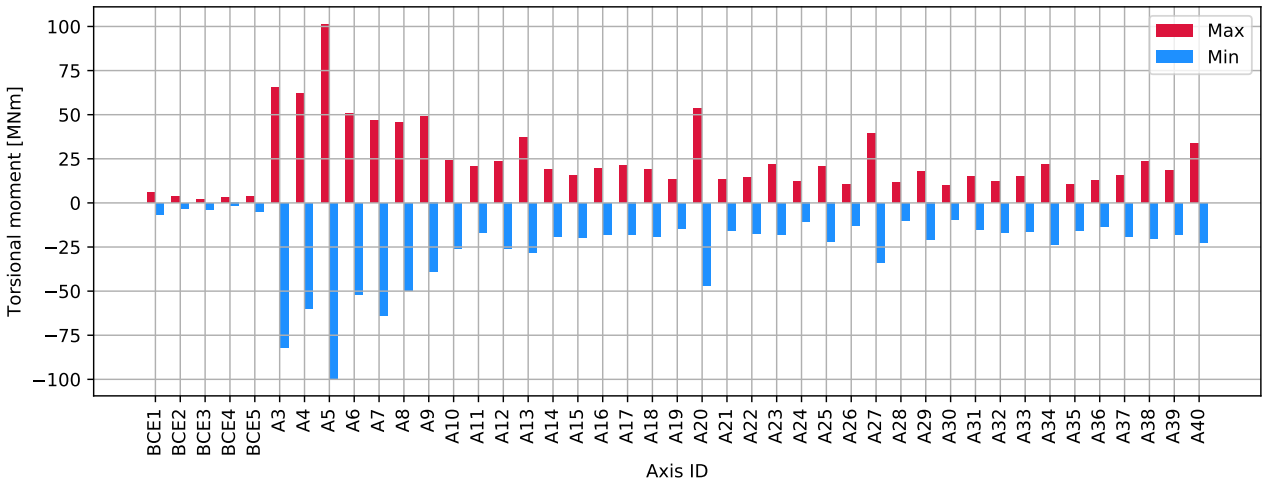

Figure 3.1305: P A4 180deg - columns bottom : Torsional moment [MNm]

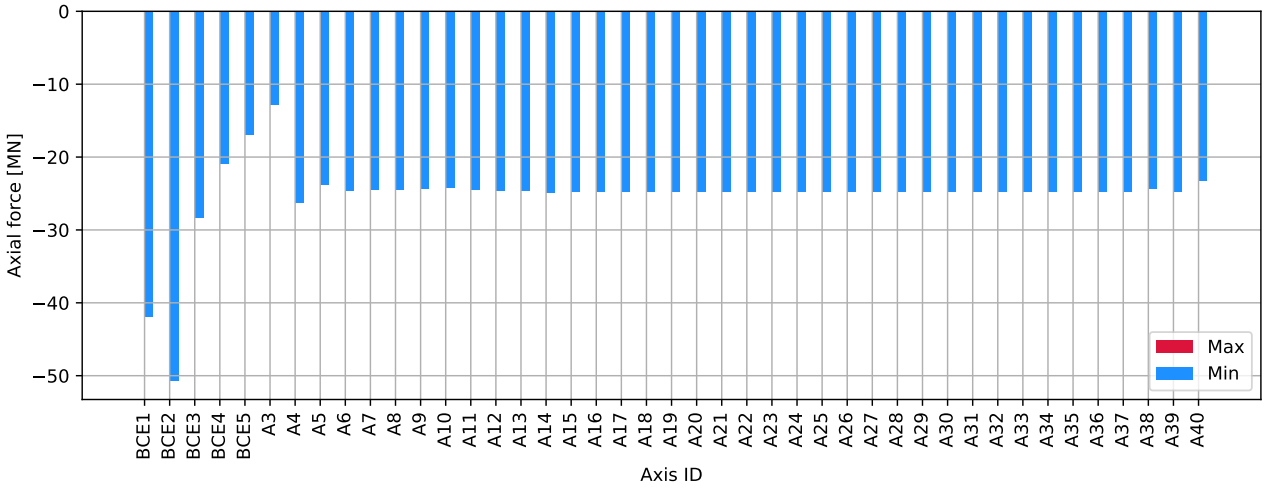

Figure 3.1306: P A4 180deg - columns top : Axial force [MN]

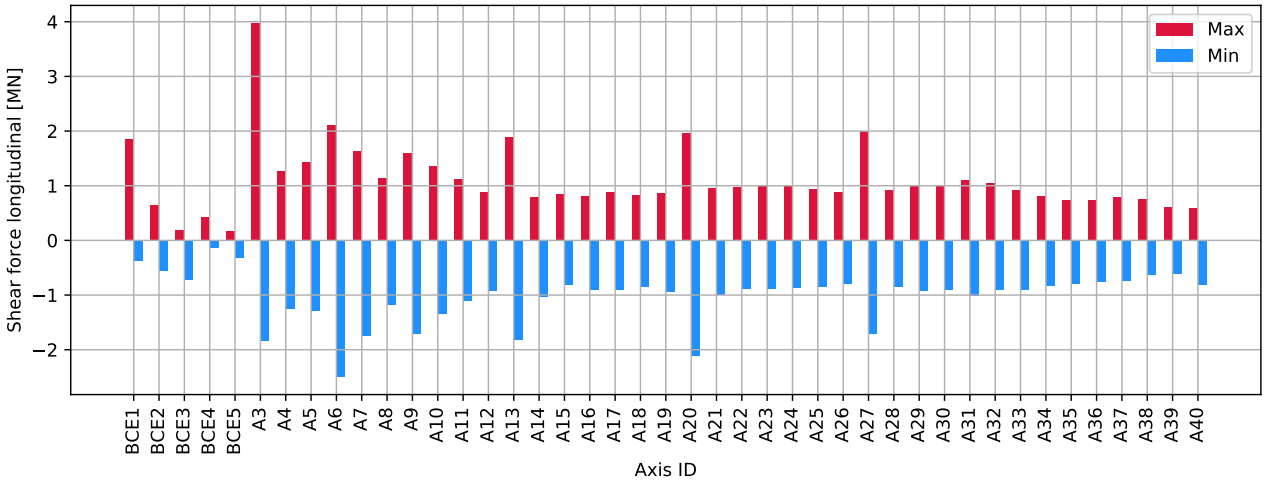

Figure 3.1307: P A4 180deg - columns top : Shear force longitudinal [MN]

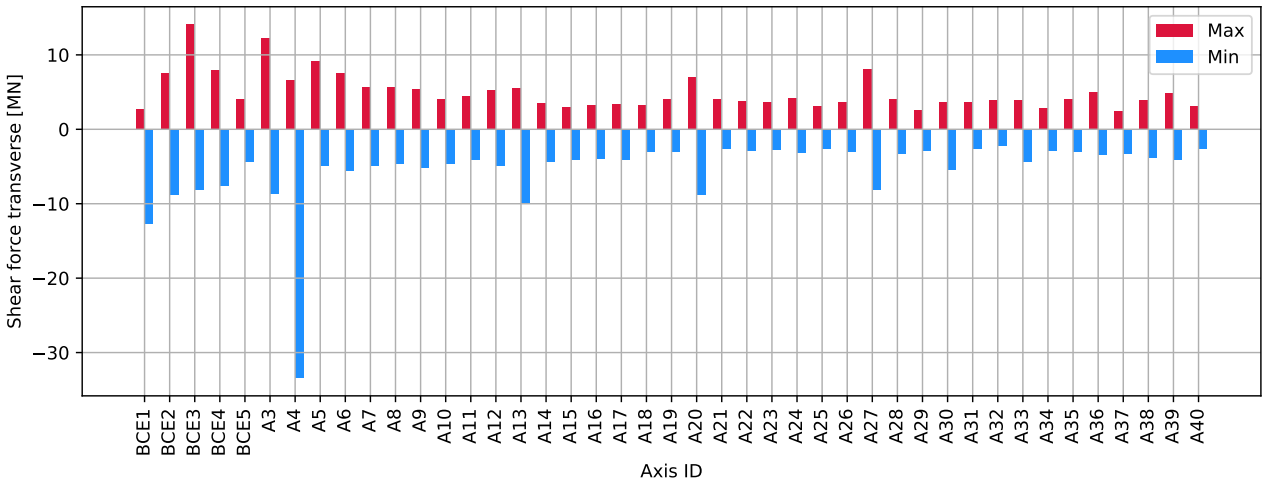

Figure 3.1308: P A4 180deg - columns top : Shear force transverse [MN]

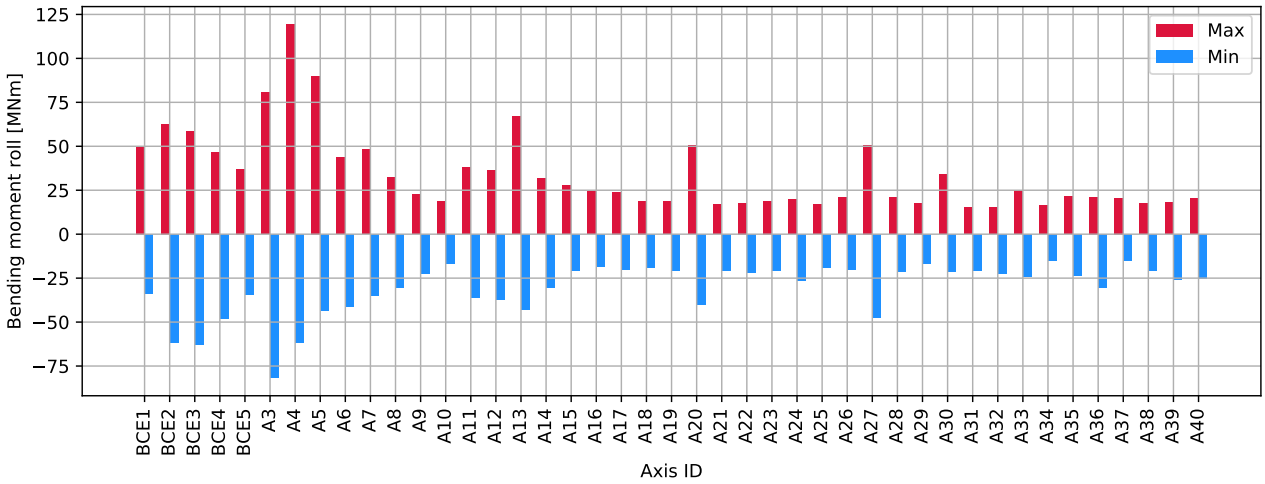

Figure 3.1309: P A4 180deg - columns top : Bending moment roll [MNm]

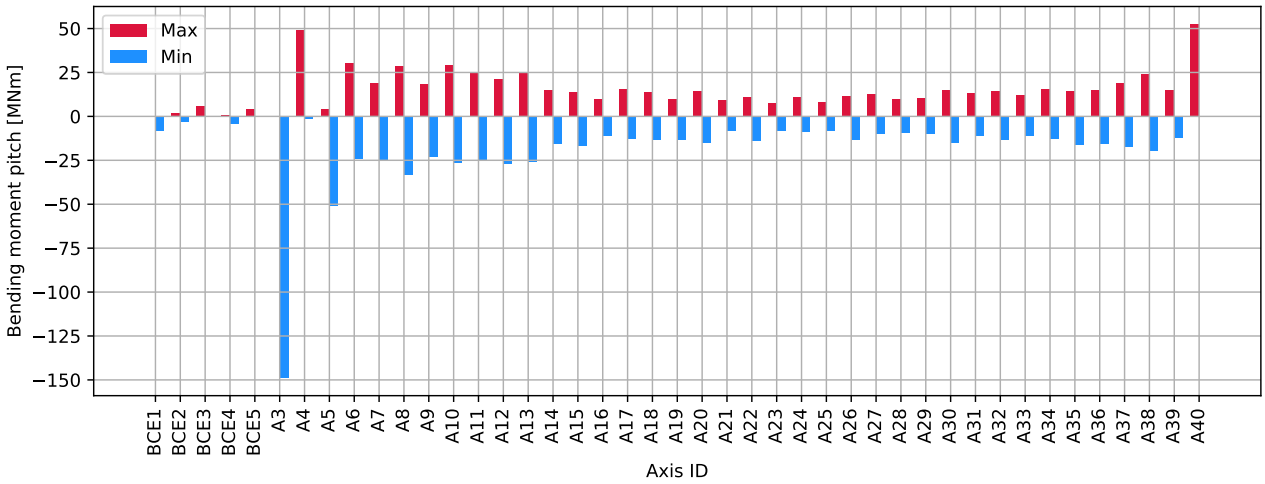

Figure 3.1310: P A4 180deg - columns top : Bending moment pitch [MNm]

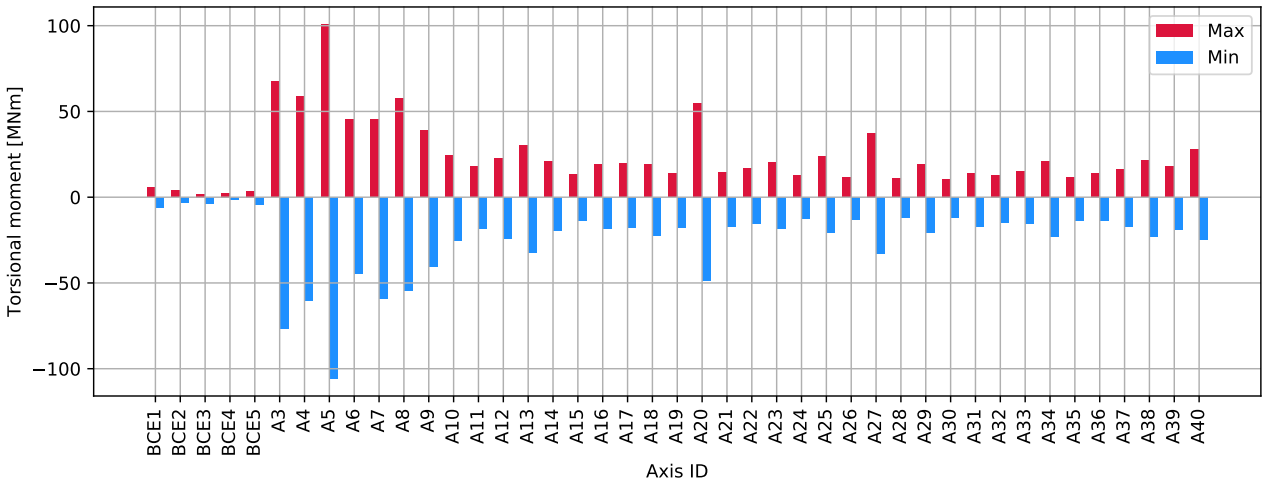

Figure 3.1311: P A4 180deg - columns top : Torsional moment [MNm]

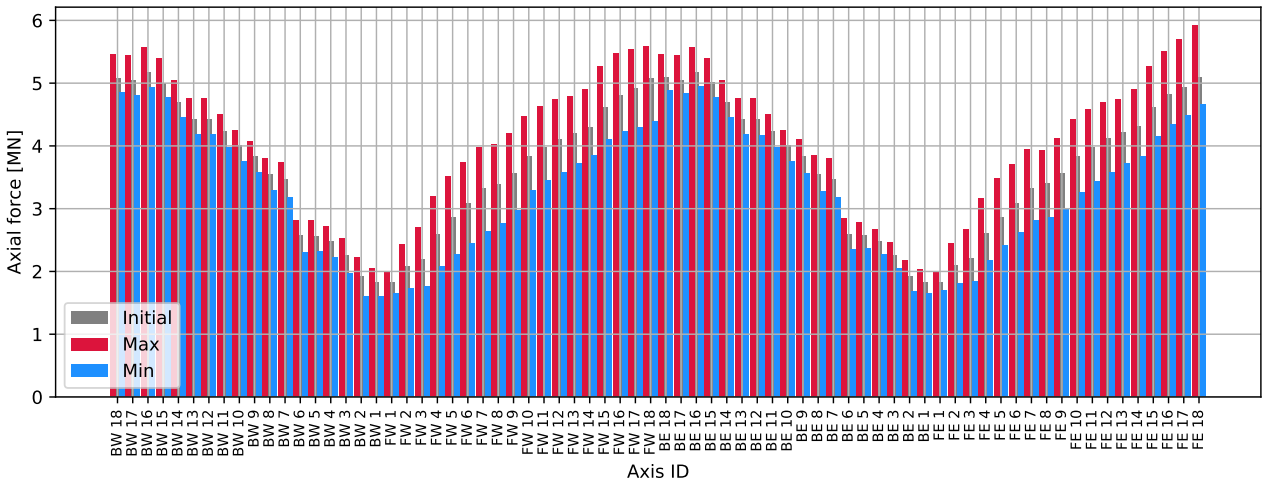

Figure 3.1312: P A4 180deg - cables : Axial force [MN]

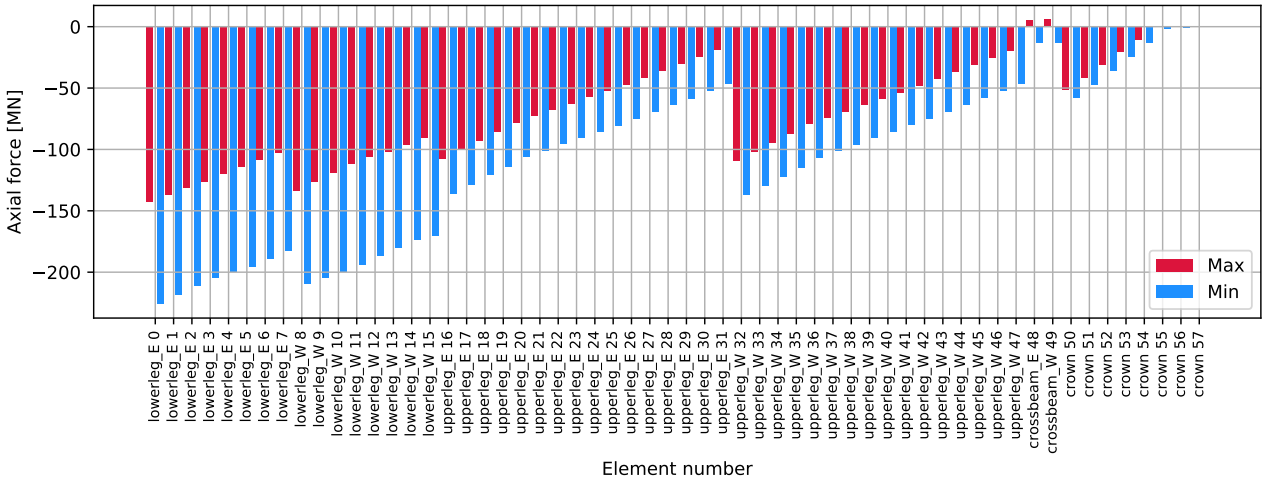

Figure 3.1313: P A4 180deg - tower: Axial force [MN]

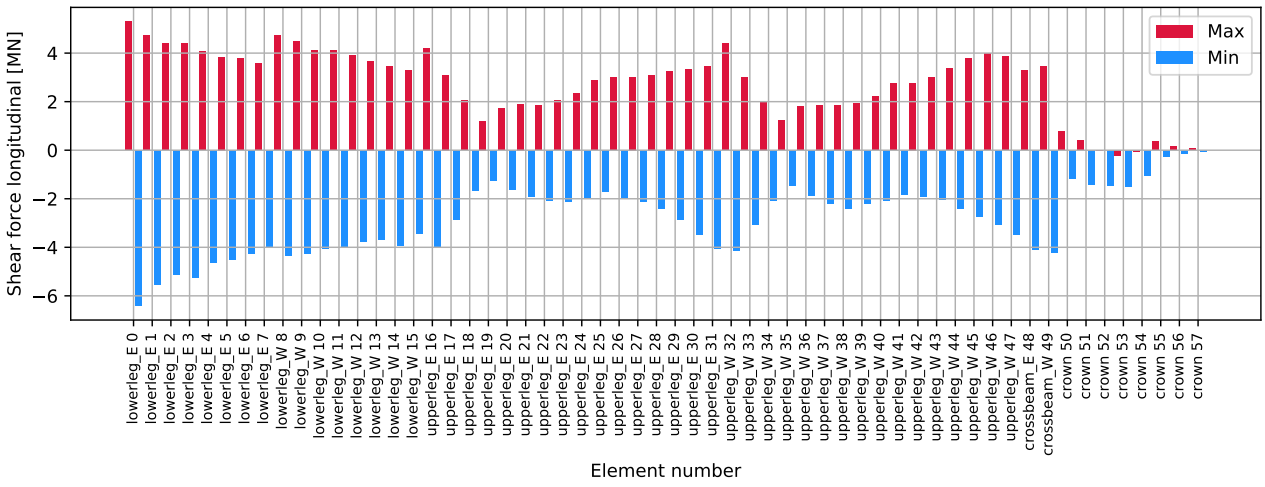

Figure 3.1314: P A4 180deg - tower: Shear force longitudinal [MN]

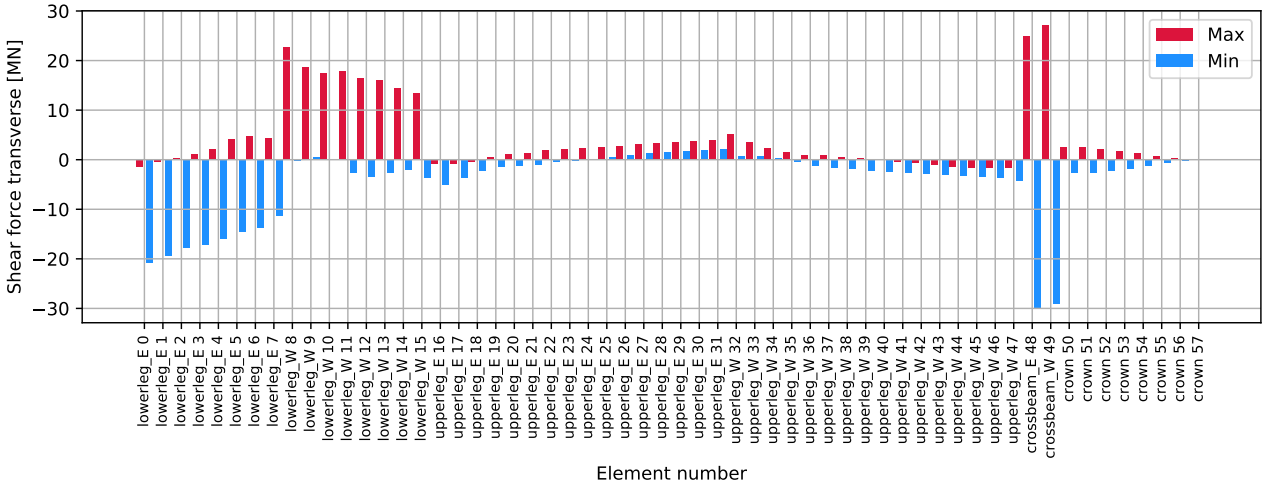

Figure 3.1315: P A4 180deg - tower: Shear force transverse [MN]

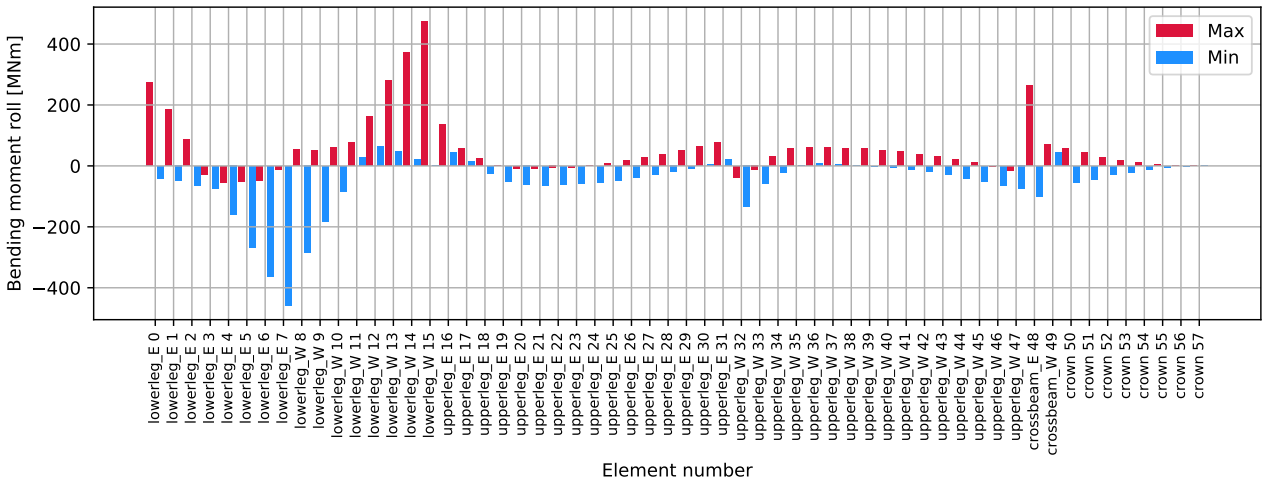

Figure 3.1316: P A4 180deg - tower: Bending moment roll [MNm]

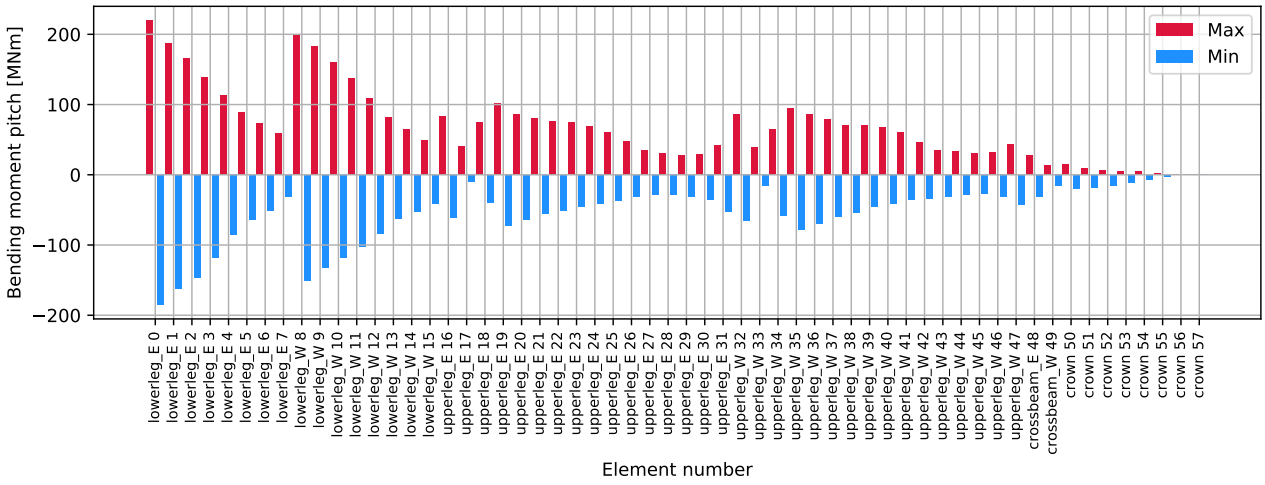

Figure 3.1317: P A4 180deg - tower: Bending moment pitch [MNm]

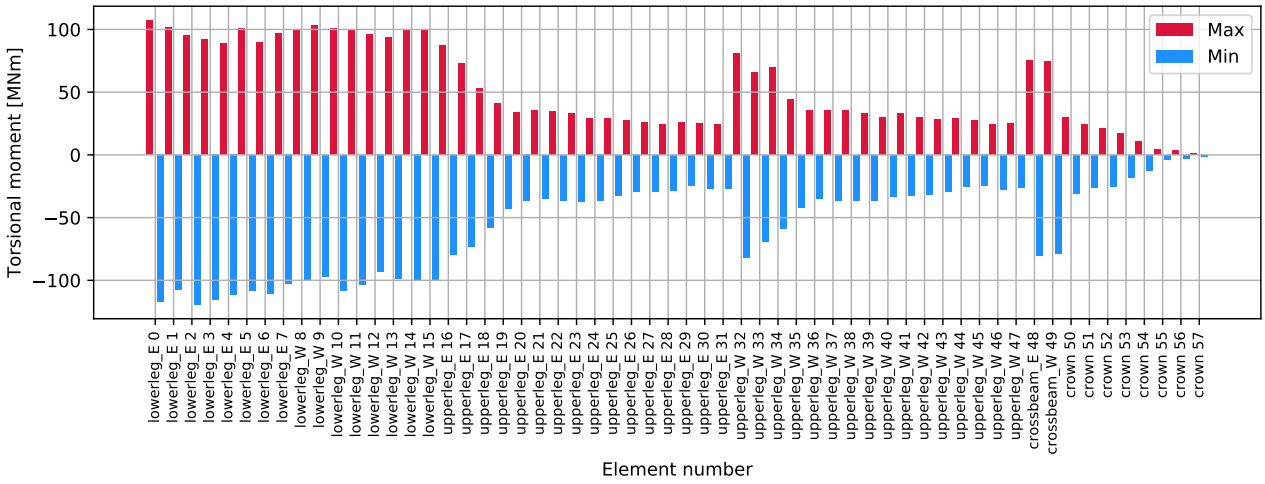

Figure 3.1318: P A4 180deg - tower: Torsional moment [MNm]

3.29.3 Time series

Note : Time series are filtered using a Saviotzky-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

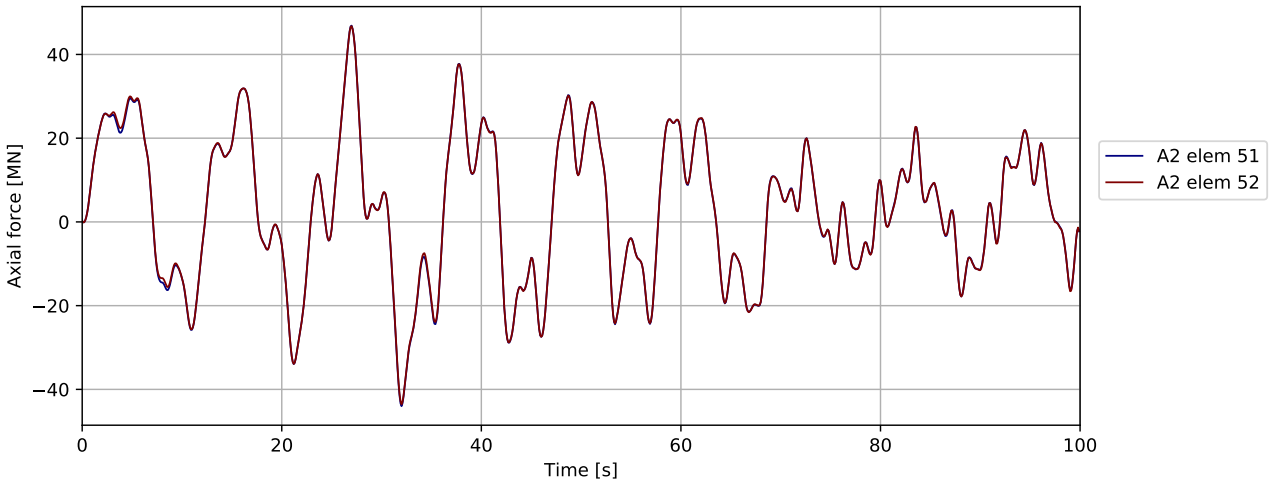

Figure 3.1319: P A4 180deg - bridgegirder @ pylon: Axial force [MN]

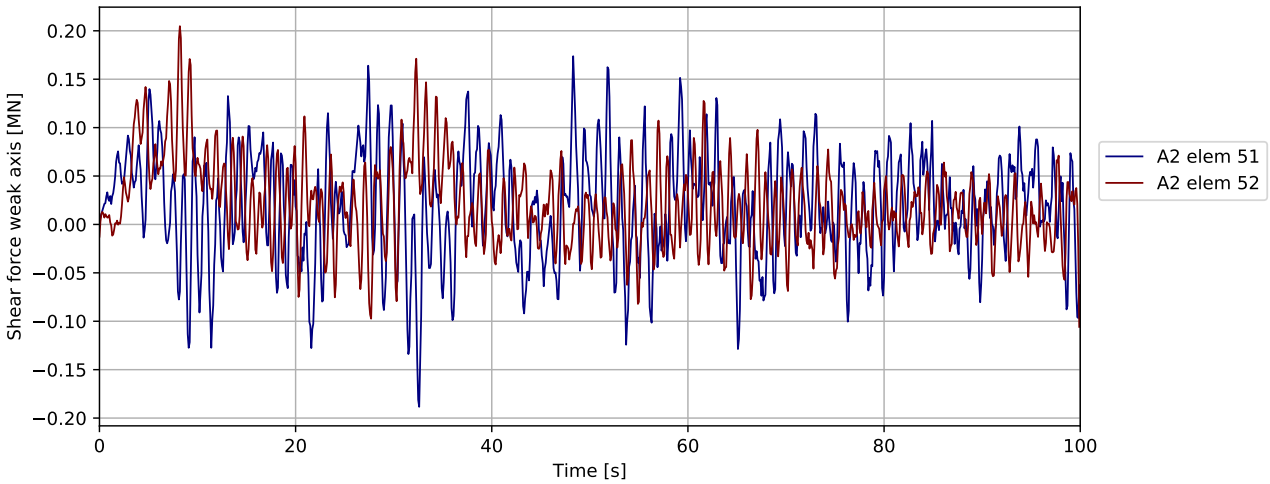

Figure 3.1320: P A4 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

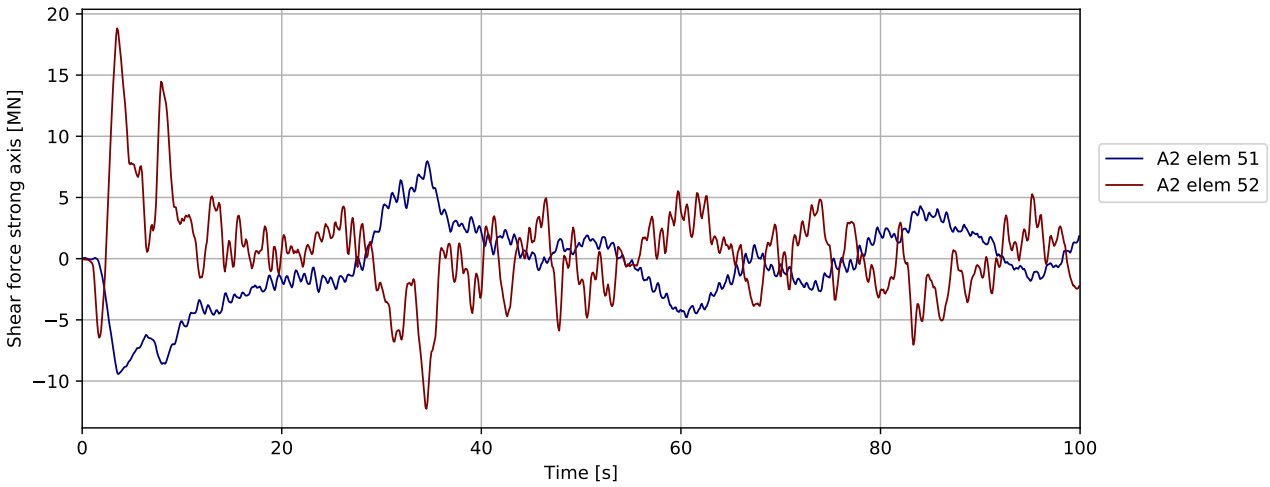

Figure 3.1321: P A4 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

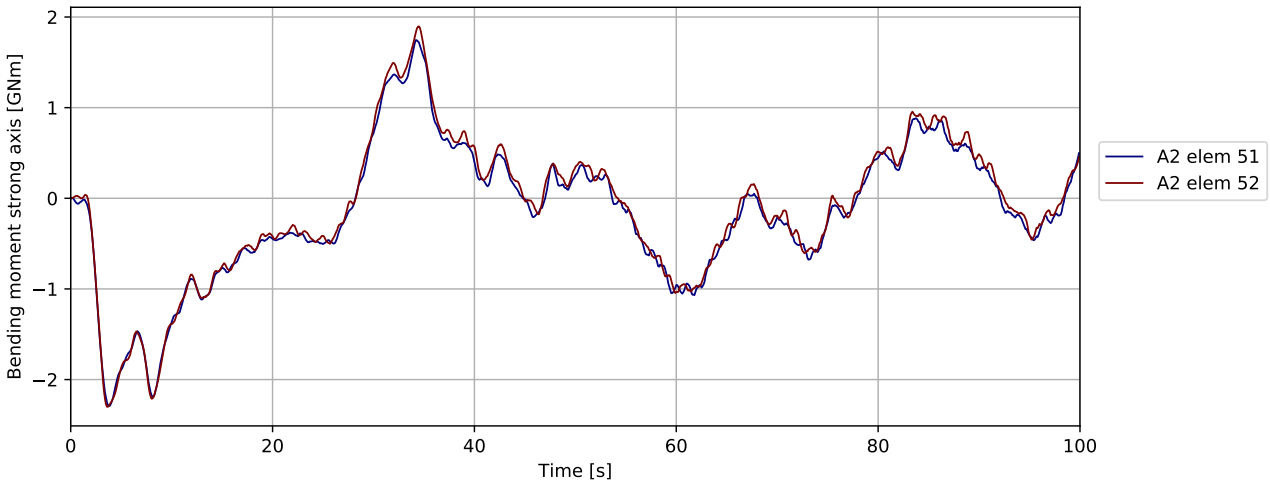

Figure 3.1322: P A4 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

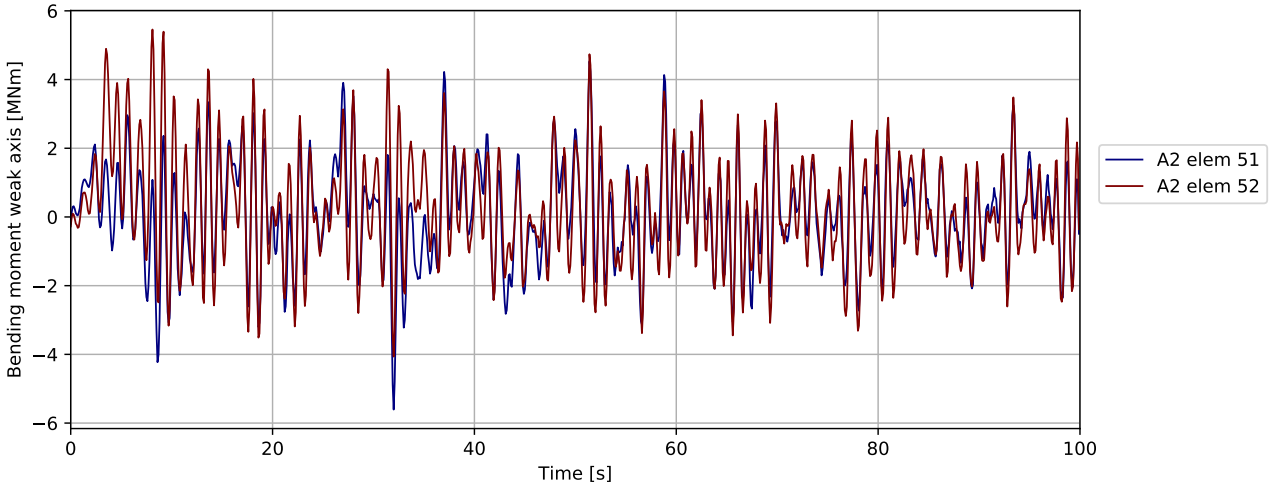

Figure 3.1323: P A4 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

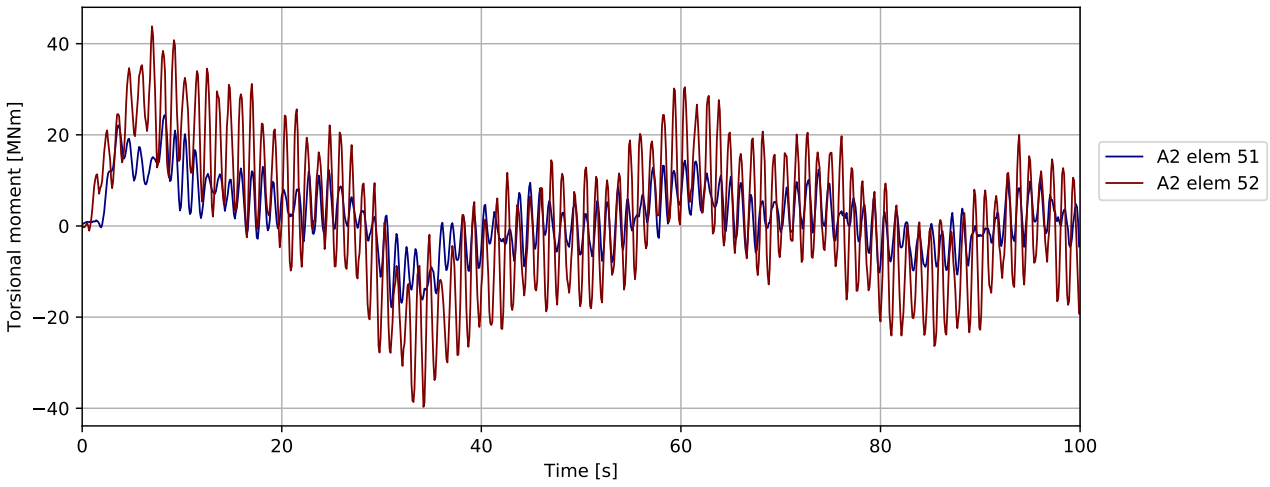

Figure 3.1324: P A4 180deg - bridgegirder @ pylon: Torsional moment [MNm]

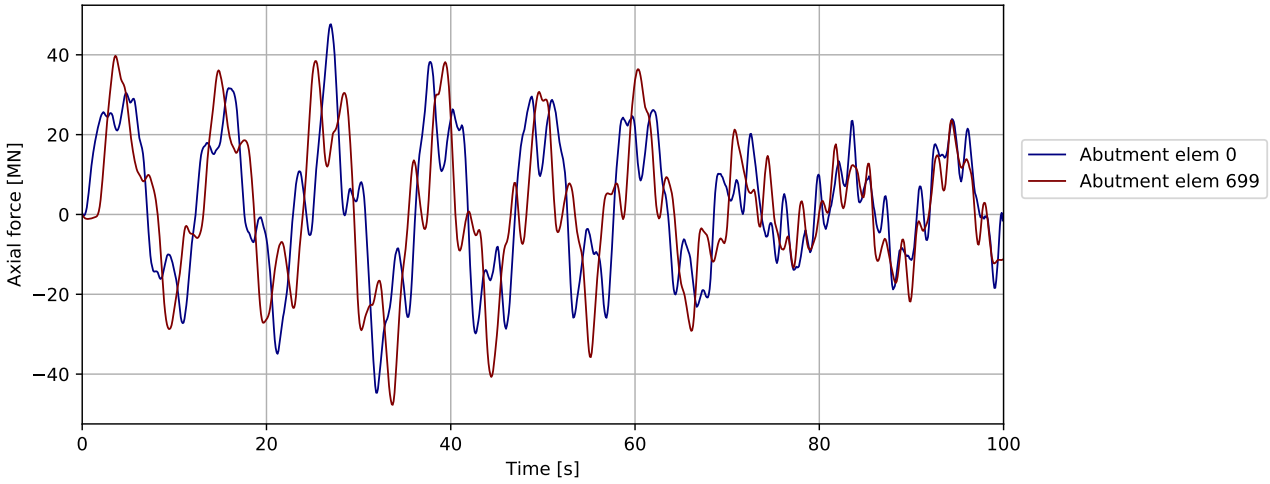

Figure 3.1325: P A4 180deg - bridgegirder @abutments: Axial force [MN]

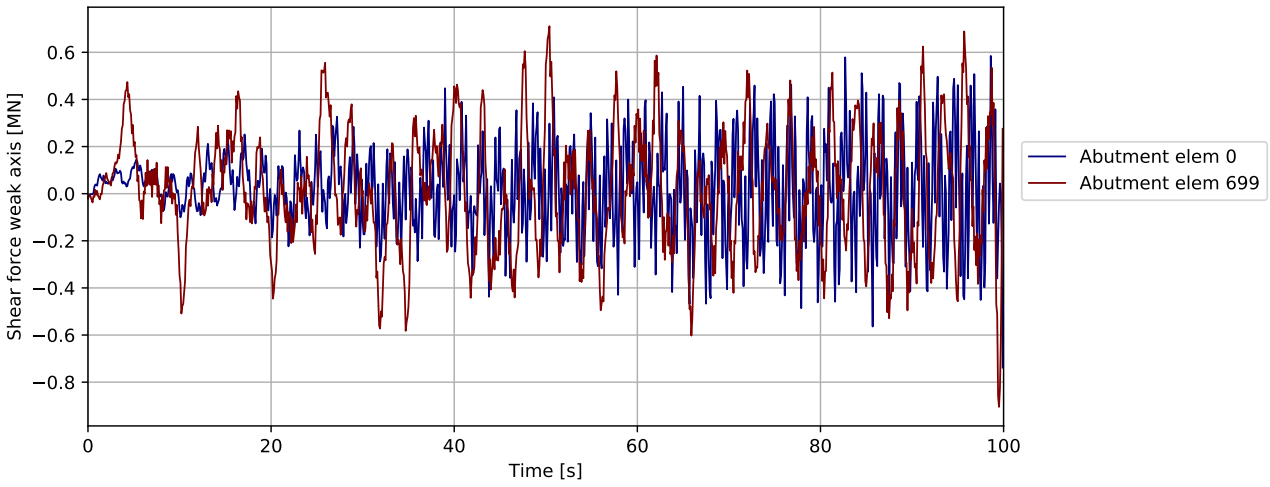

Figure 3.1326: P A4 180deg - bridgegirder @abutments: Shear force weak axis [MN]

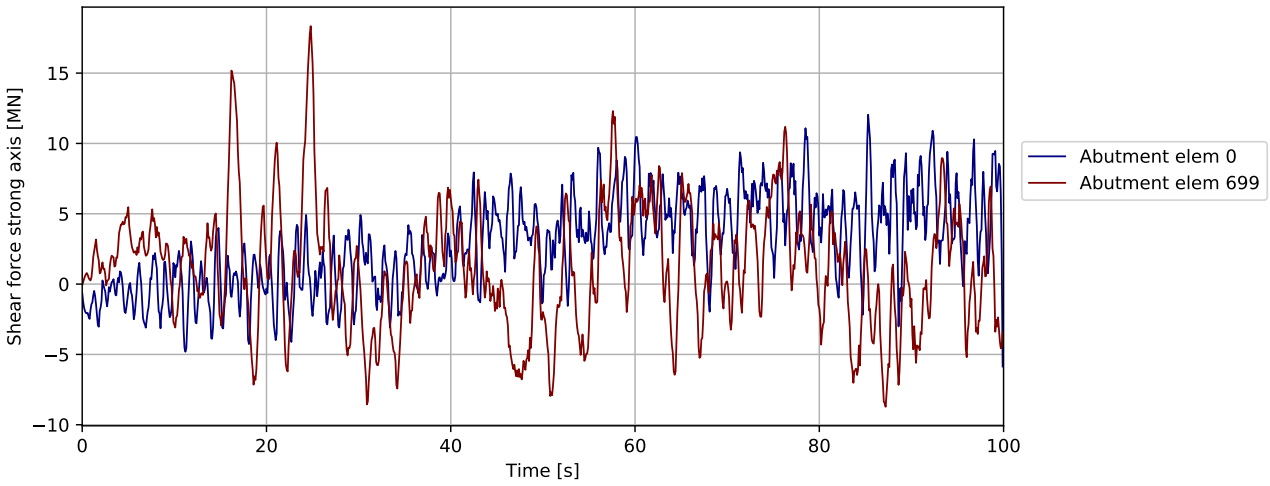

Figure 3.1327: P A4 180deg - bridgegirder @abutments: Shear force strong axis [MN]

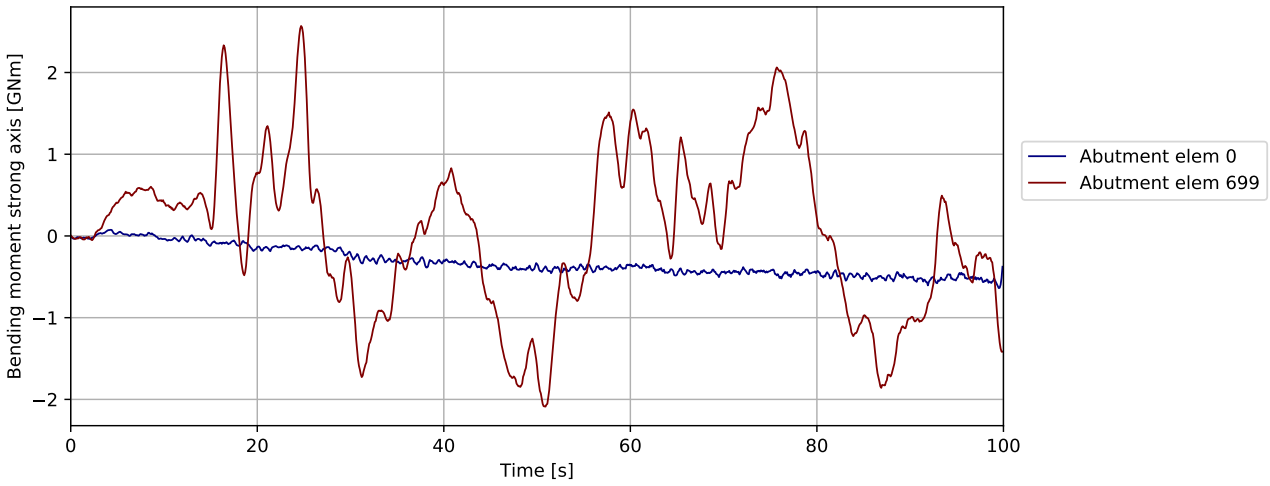

Figure 3.1328: P A4 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

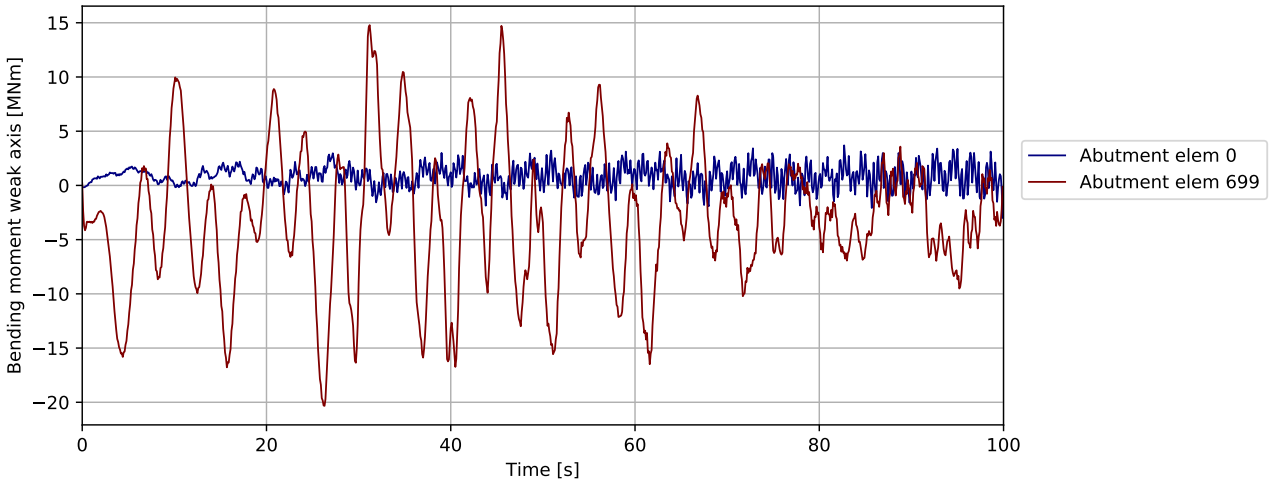

Figure 3.1329: P A4 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

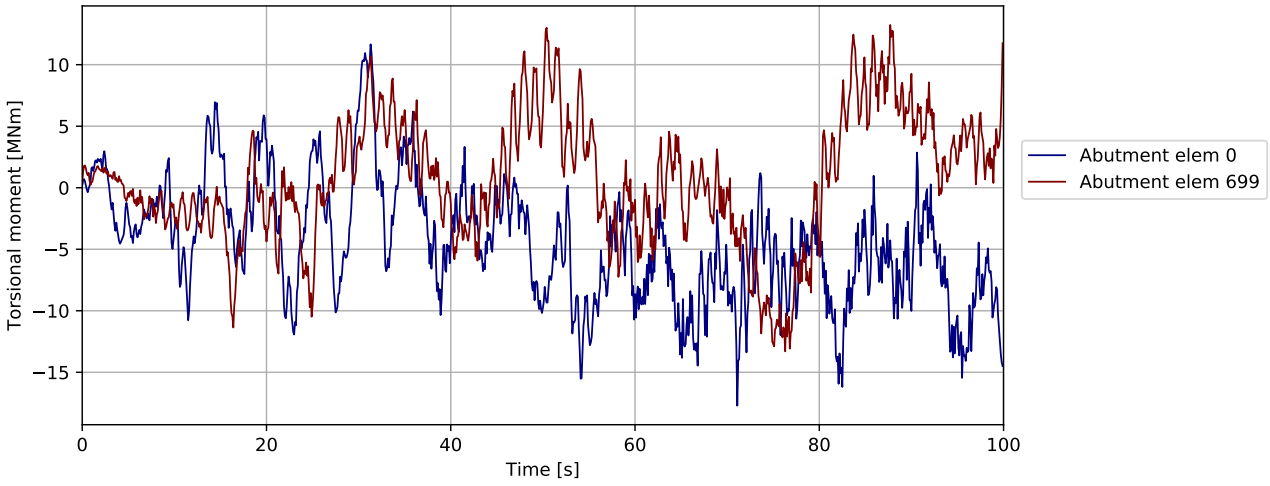

Figure 3.1330: P A4 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

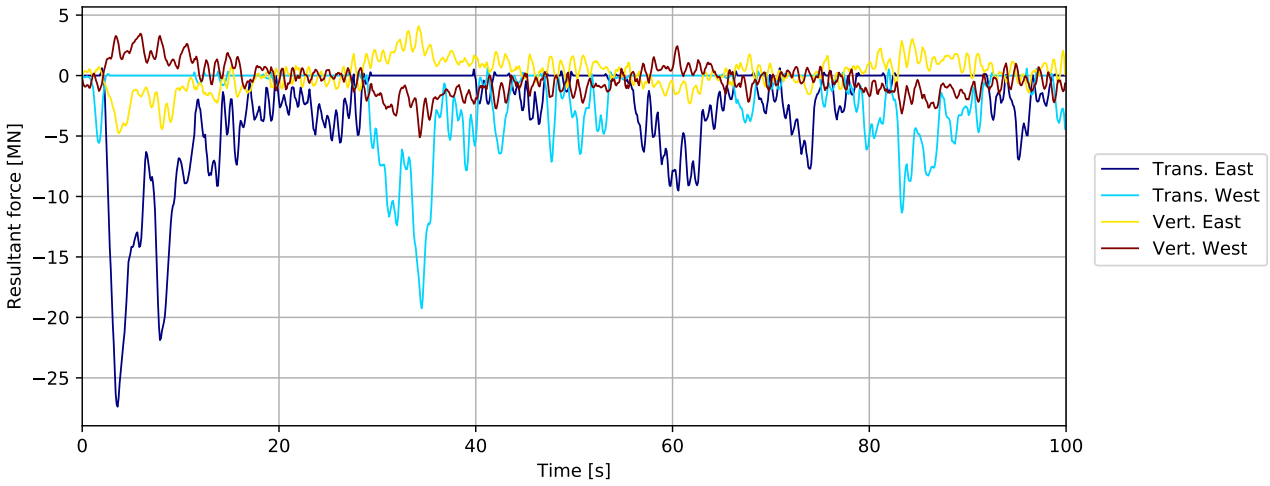

Figure 3.1331: P A4 180deg - bridgegirder supports in tower: Resultant force [MN]

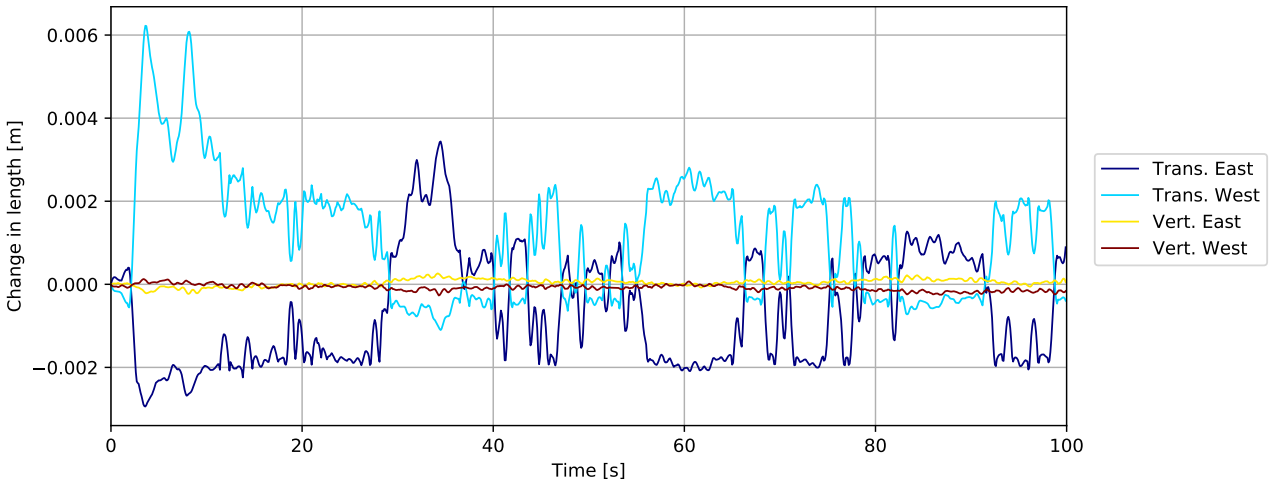

Figure 3.1332: P A4 180deg - bridgegirder supports in tower: Change in length [m]

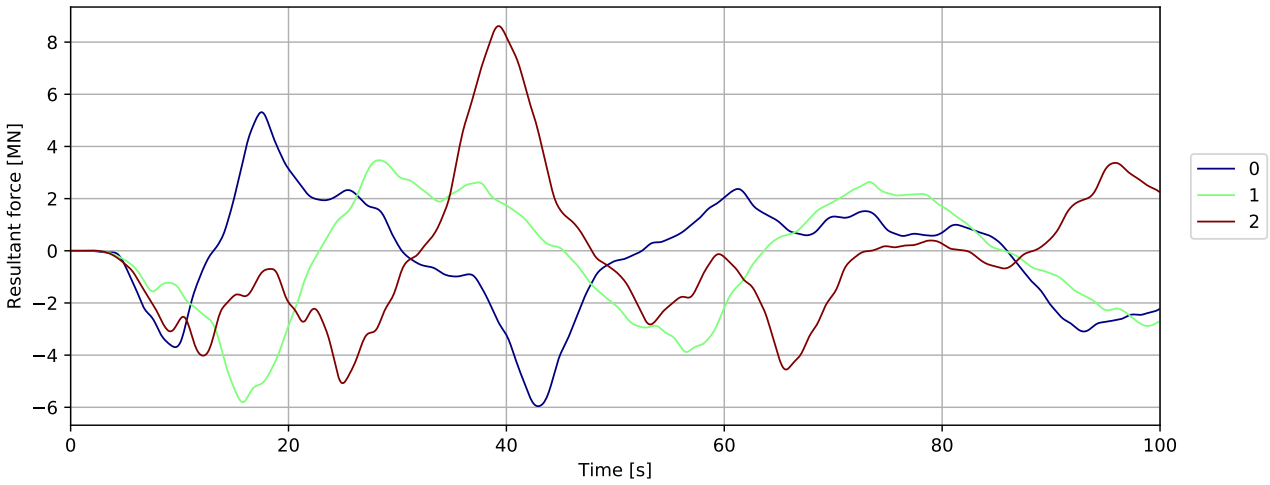

Figure 3.1333: Mooring force

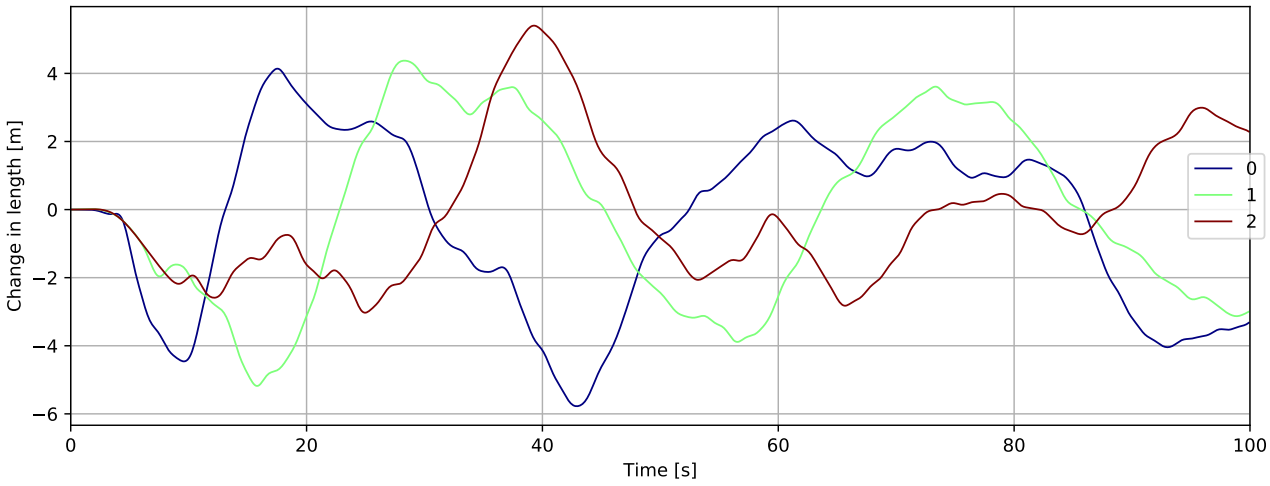

Figure 3.1334: Mooring displacement

3.30 PontoonA5 180deg

3.30.1 Overall response

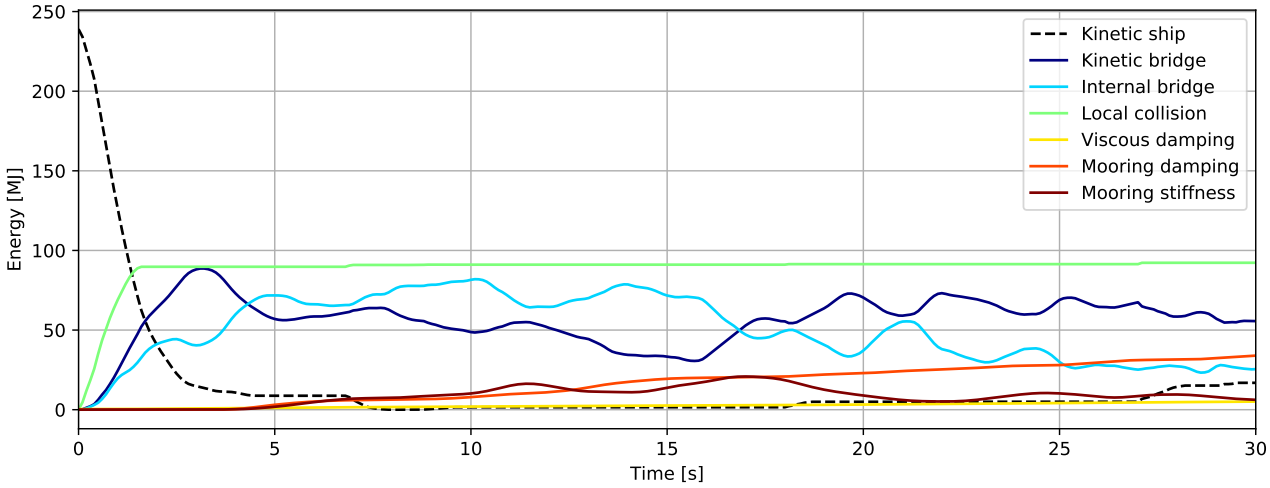

Figure 3.1335: Energy [MJ] - initial phase

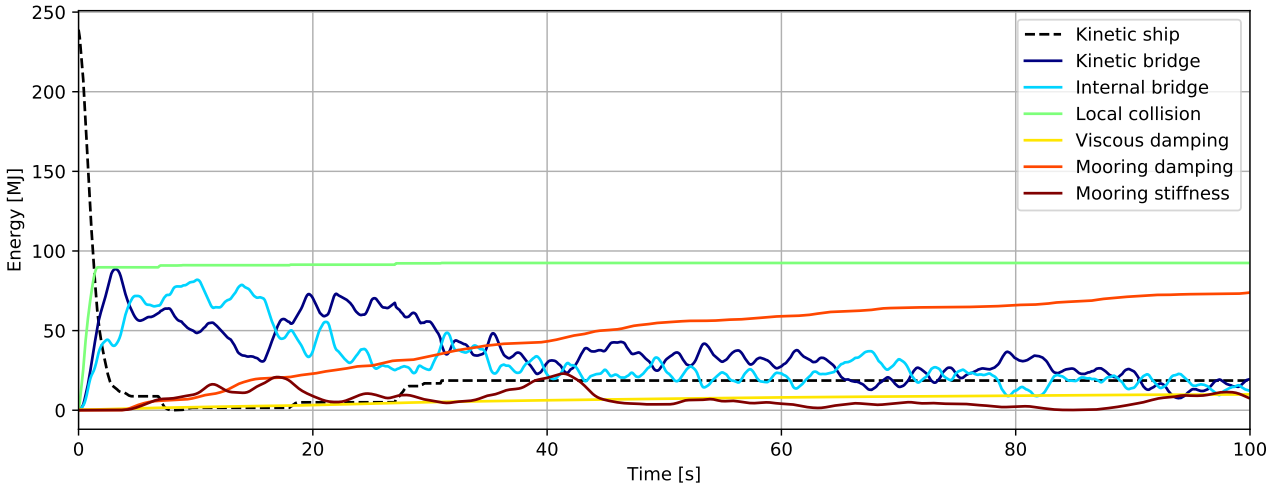

Figure 3.1336: Energy [MJ]

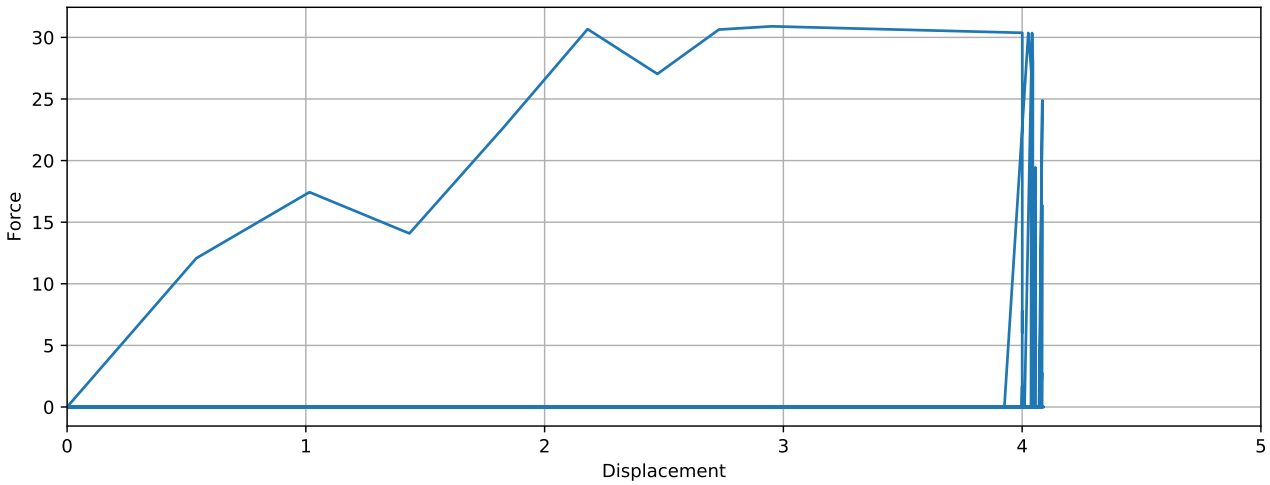

Figure 3.1337: Simulated local collision force-displacement

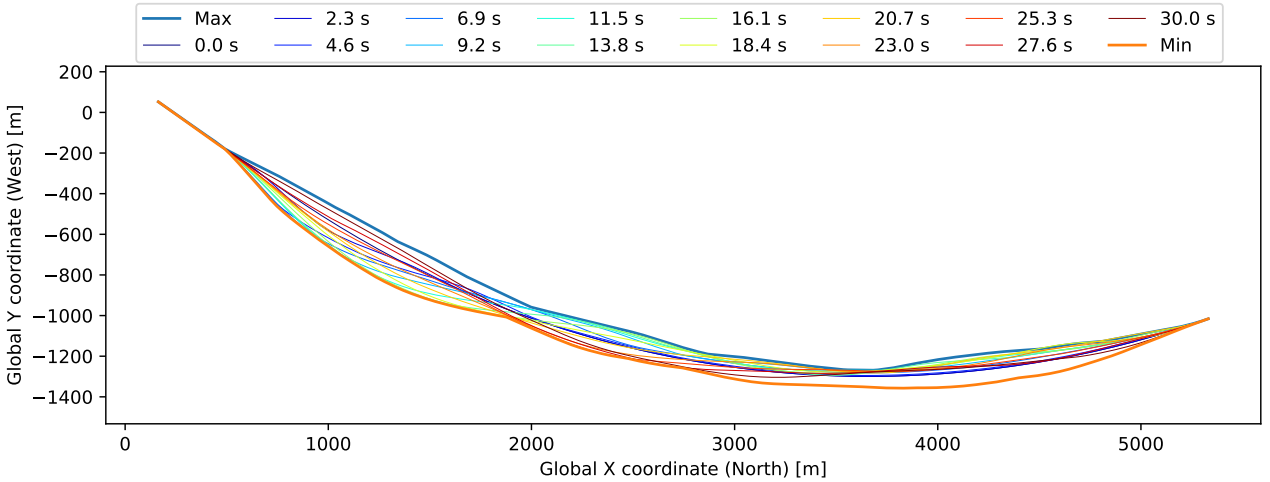

Figure 3.1338: Bridgegirder deflection (10x displacment scaling)

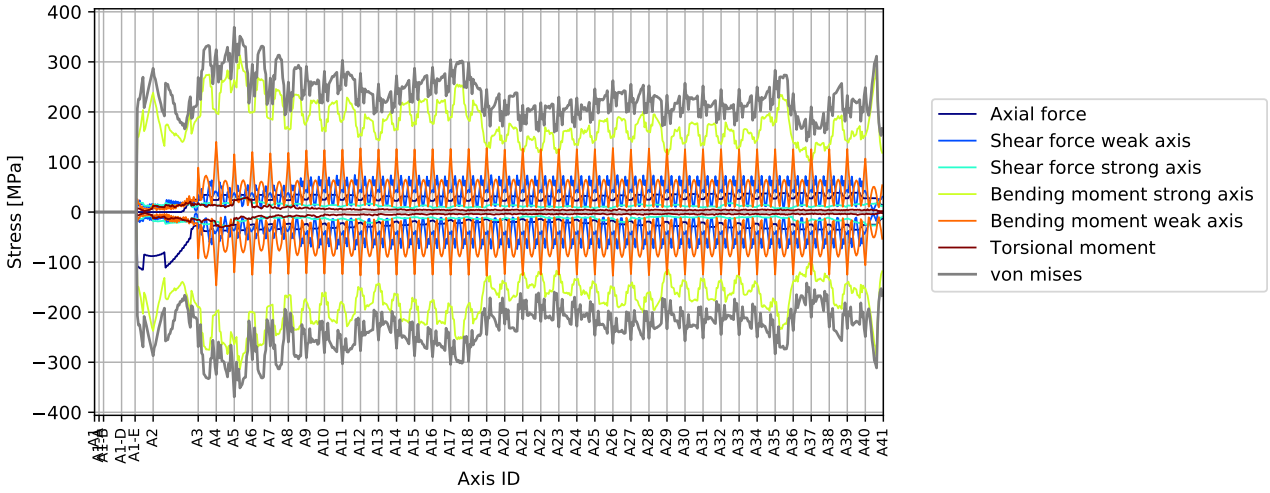

Figure 3.1339: Stress envelope from all force components

3.30.2 Envelope plots

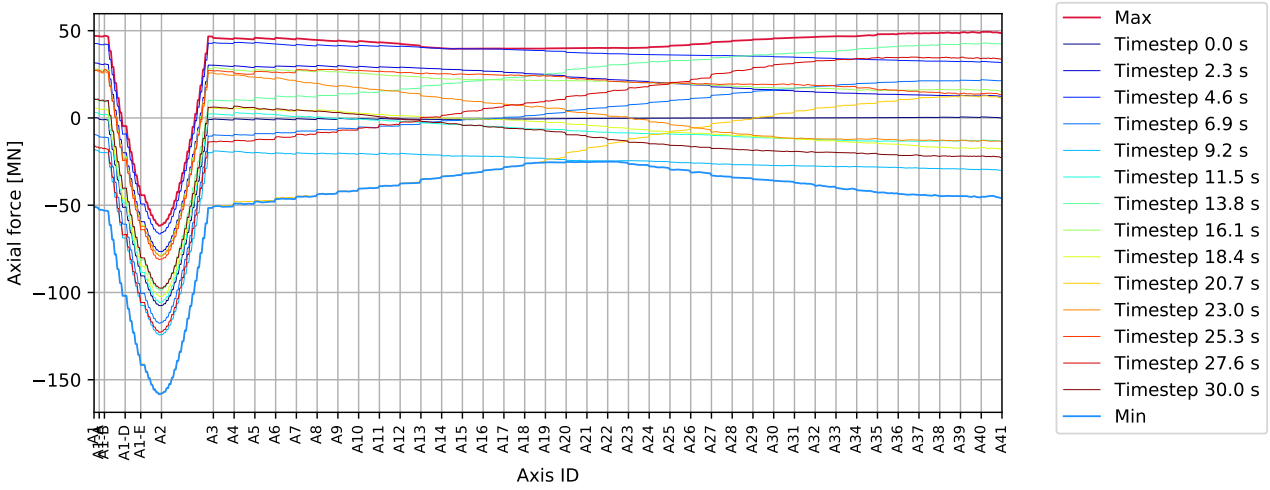

Figure 3.1340: P A5 180deg - bridgegirder : Axial force [MN]

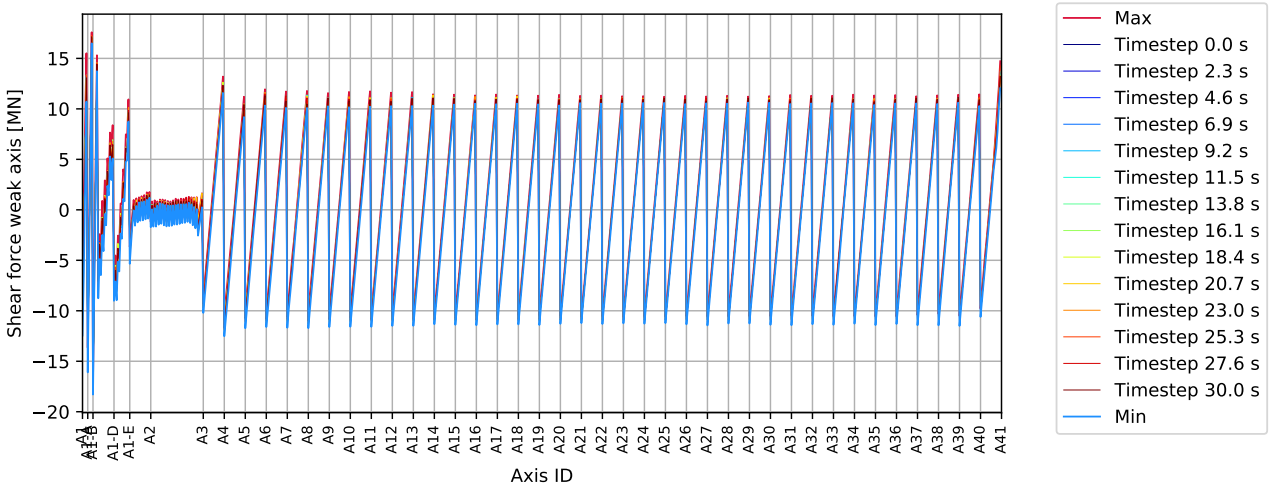

Figure 3.1341: P A5 180deg - bridgegirder : Shear force weak axis [MN]

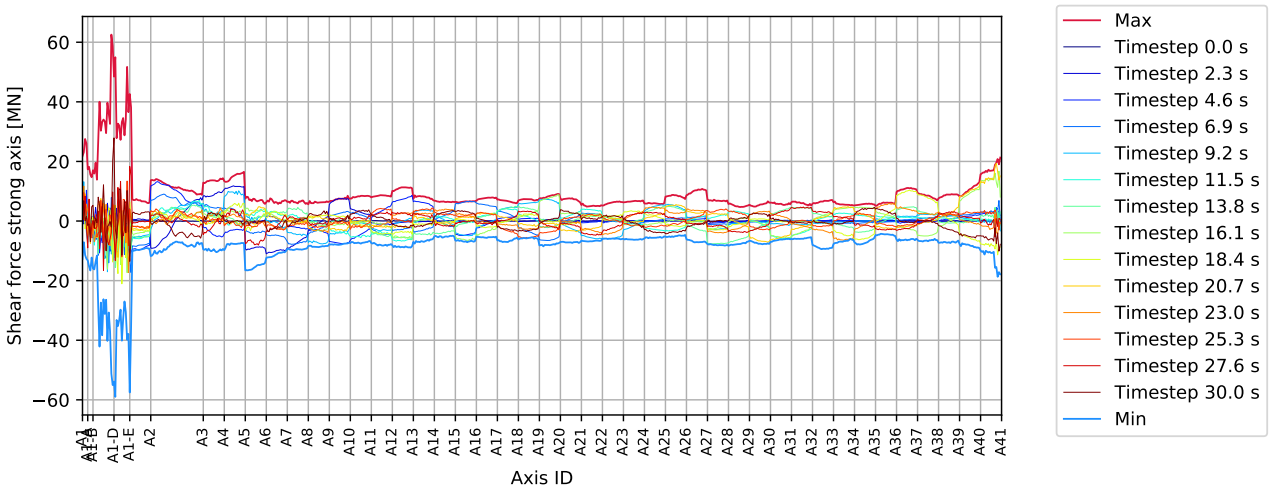

Figure 3.1342: P A5 180deg - bridgegirder : Shear force strong axis [MN]

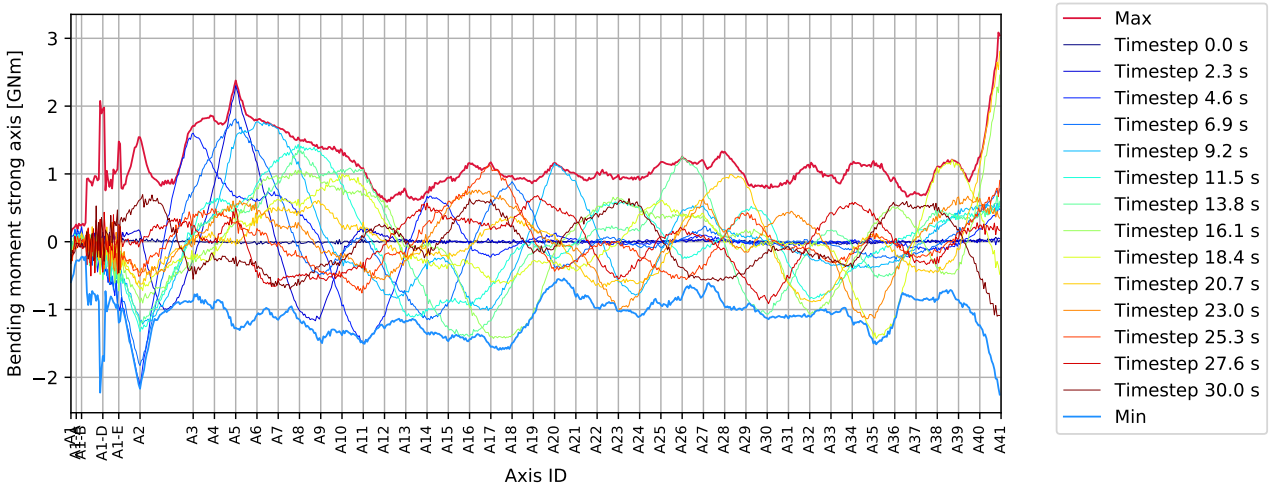

Figure 3.1343: P A5 180deg - bridgegirder : Bending moment strong axis [GNm]

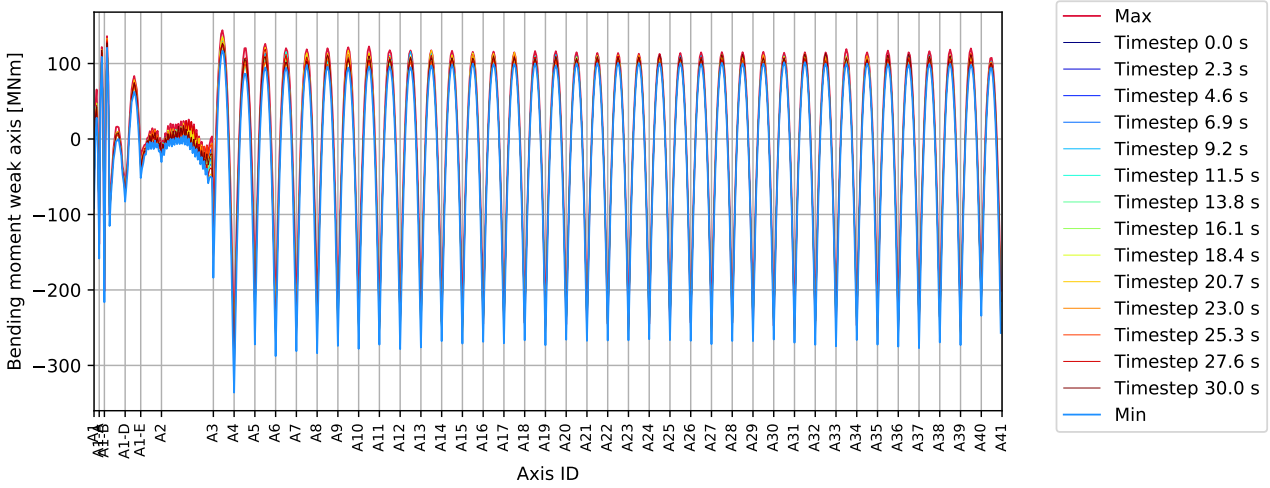

Figure 3.1344: P A5 180deg - bridgegirder : Bending moment weak axis [MNm]

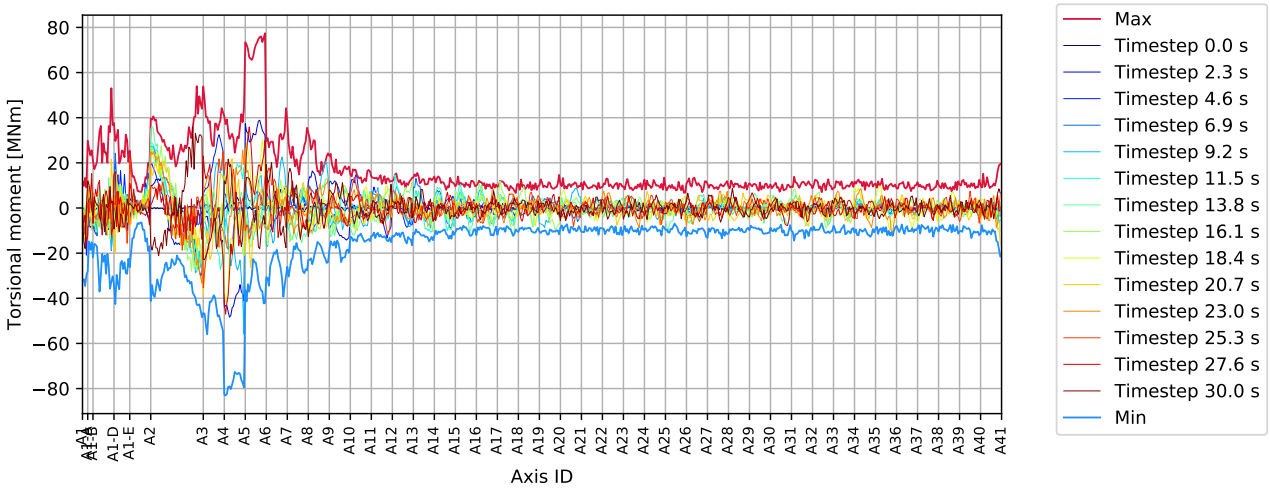

Figure 3.1345: P A5 180deg - bridgegirder : Torsional moment [MNm]

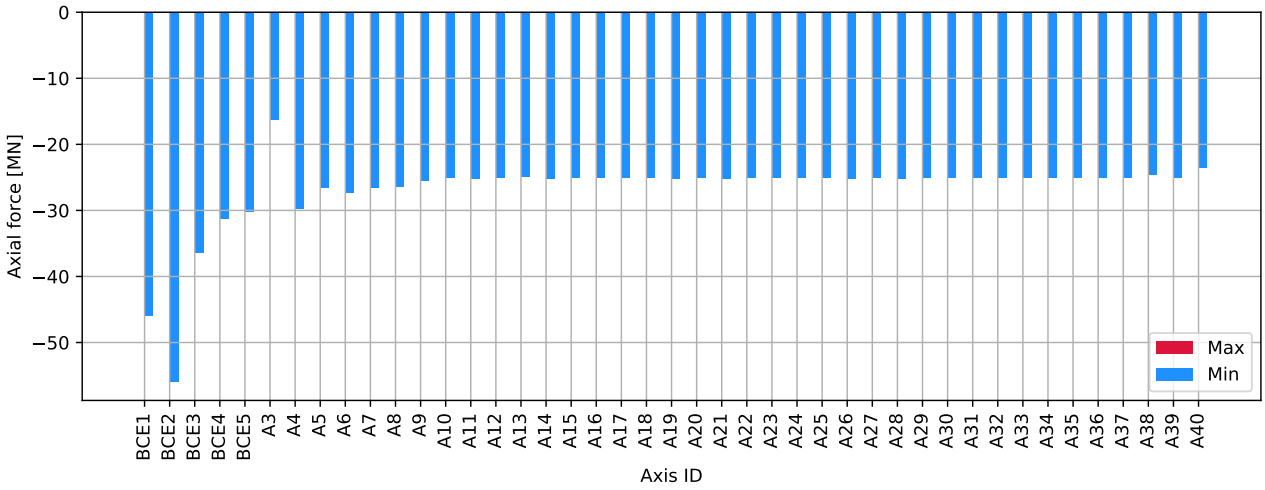

Figure 3.1346: P A5 180deg - columns bottom : Axial force [MN]

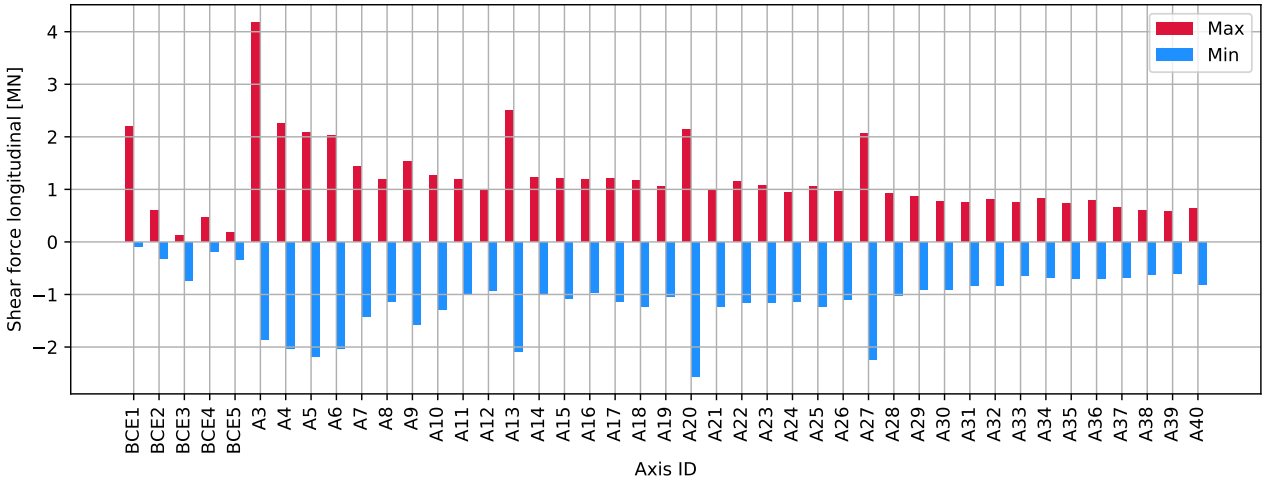

Figure 3.1347: P A5 180deg - columns bottom : Shear force longitudinal [MN]

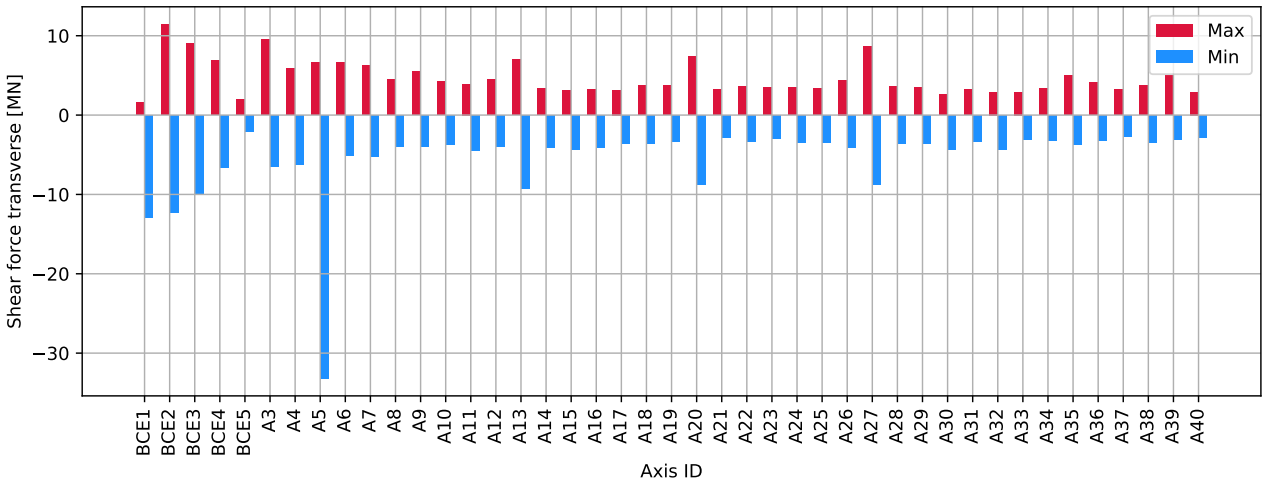

Figure 3.1348: P A5 180deg - columns bottom : Shear force transverse [MN]

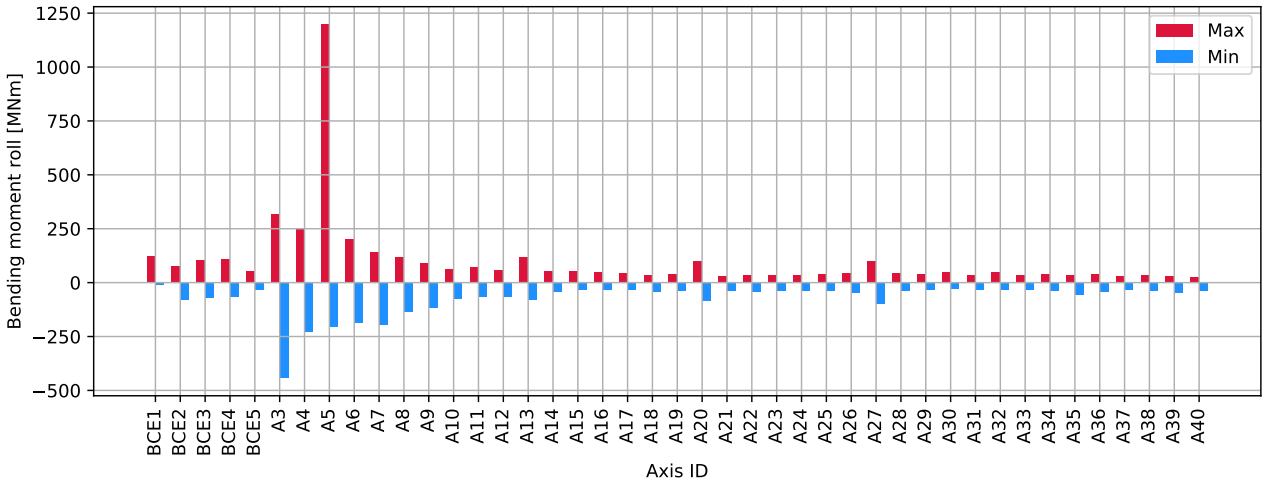

Figure 3.1349: P A5 180deg - columns bottom : Bending moment roll [MNm]

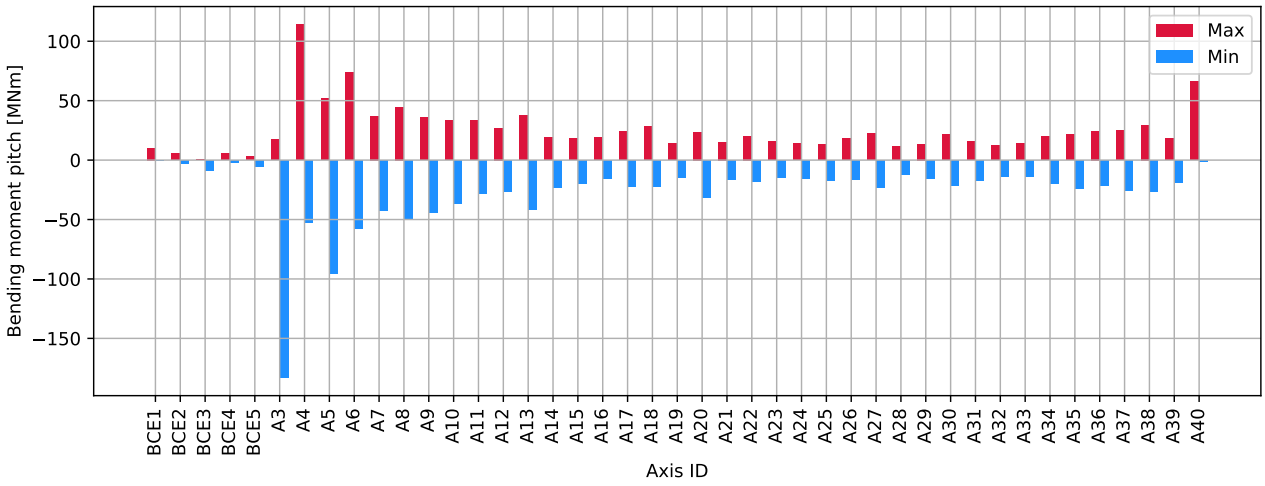

Figure 3.1350: P A5 180deg - columns bottom : Bending moment pitch [MNm]

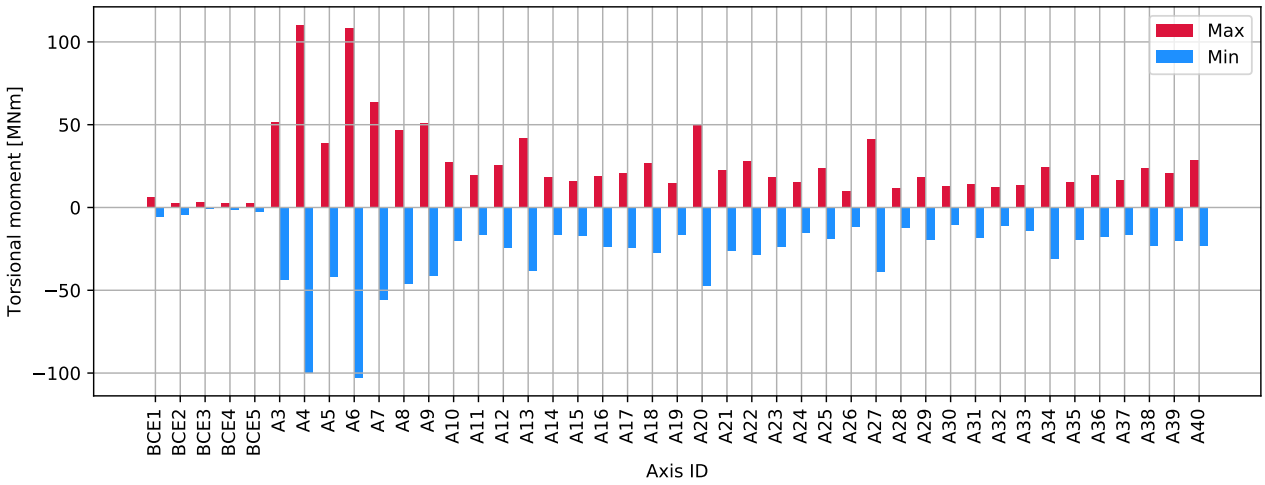

Figure 3.1351: P A5 180deg - columns bottom : Torsional moment [MNm]

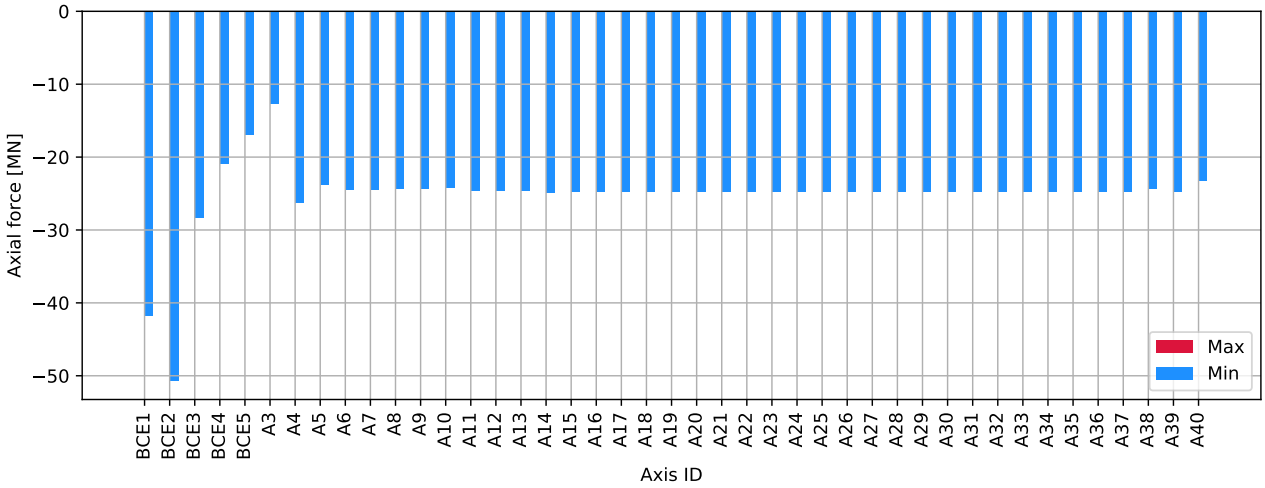

Figure 3.1352: P A5 180deg - columns top : Axial force [MN]

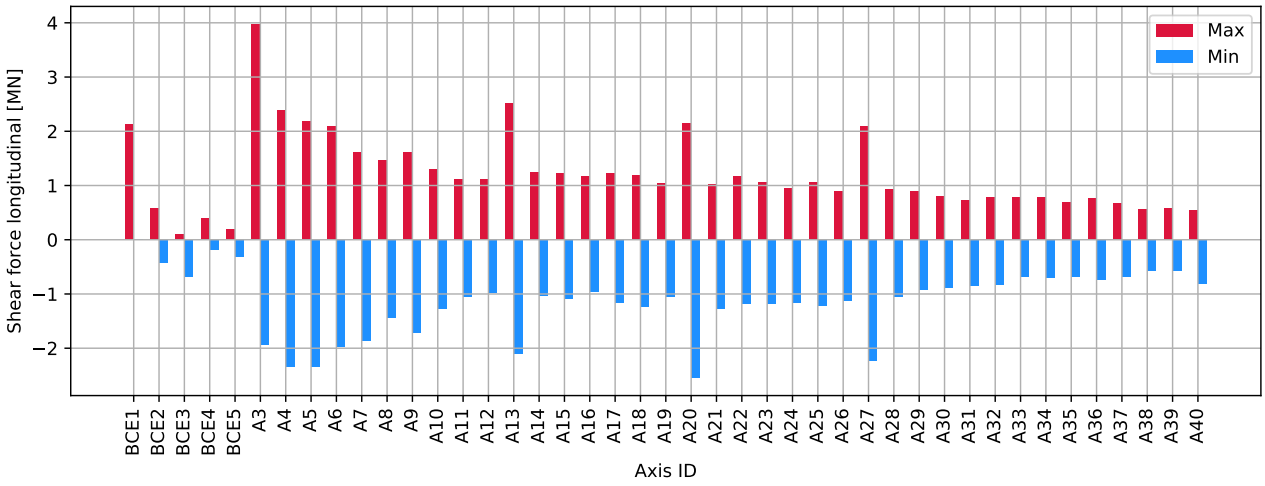

Figure 3.1353: P A5 180deg - columns top : Shear force longitudinal [MN]

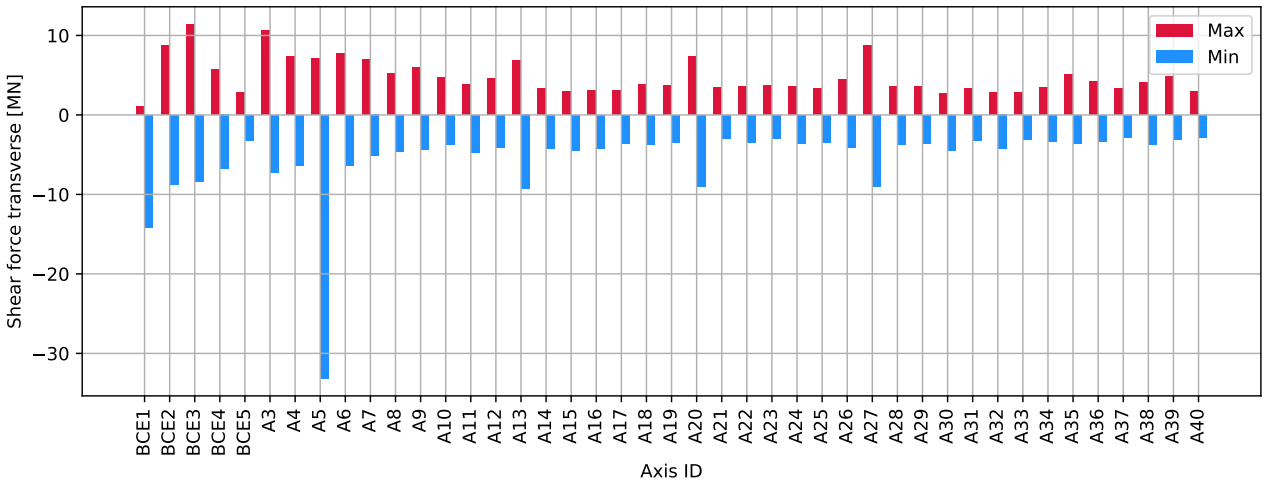

Figure 3.1354: P A5 180deg - columns top : Shear force transverse [MN]

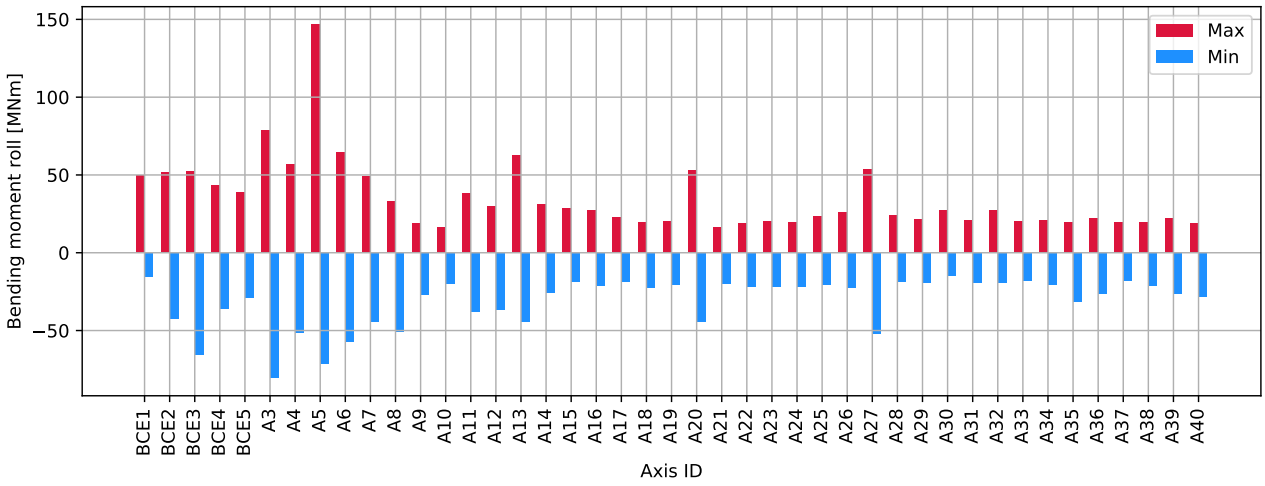

Figure 3.1355: P A5 180deg - columns top : Bending moment roll [MNm]

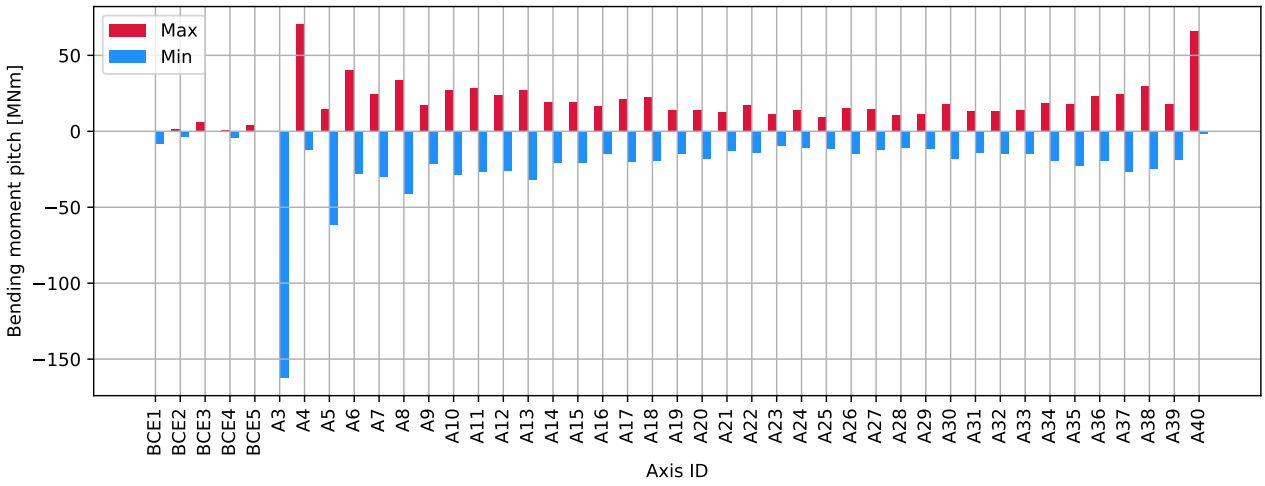

Figure 3.1356: P A5 180deg - columns top : Bending moment pitch [MNm]

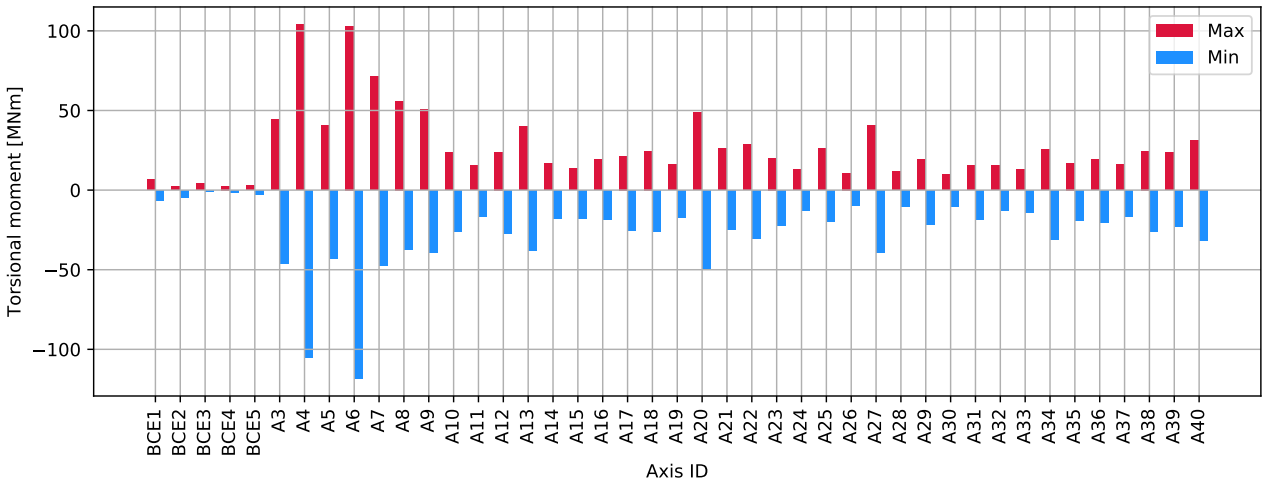

Figure 3.1357: P A5 180deg - columns top : Torsional moment [MNm]

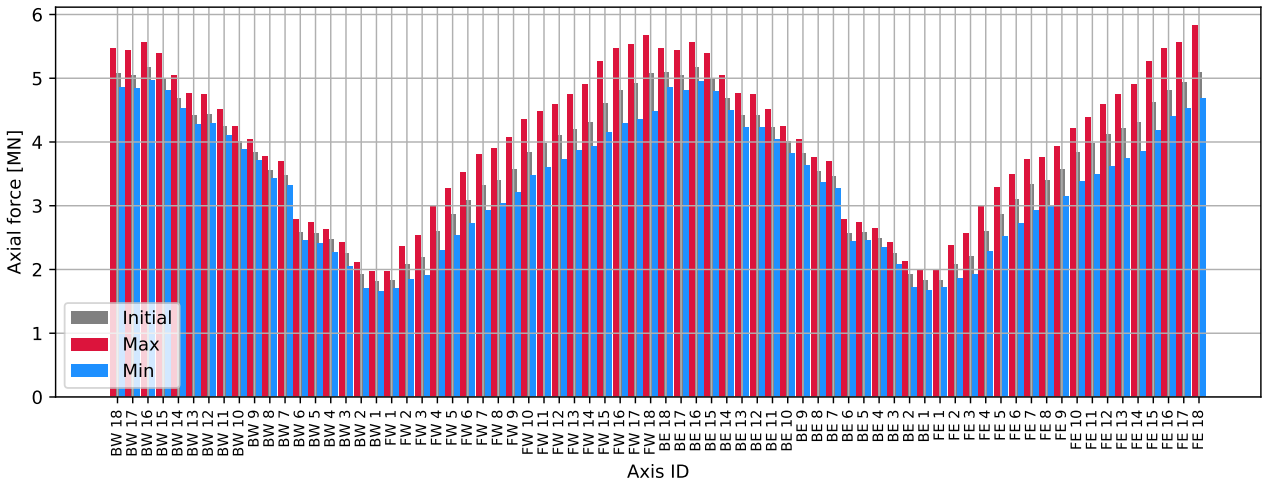

Figure 3.1358: P A5 180deg - cables : Axial force [MN]

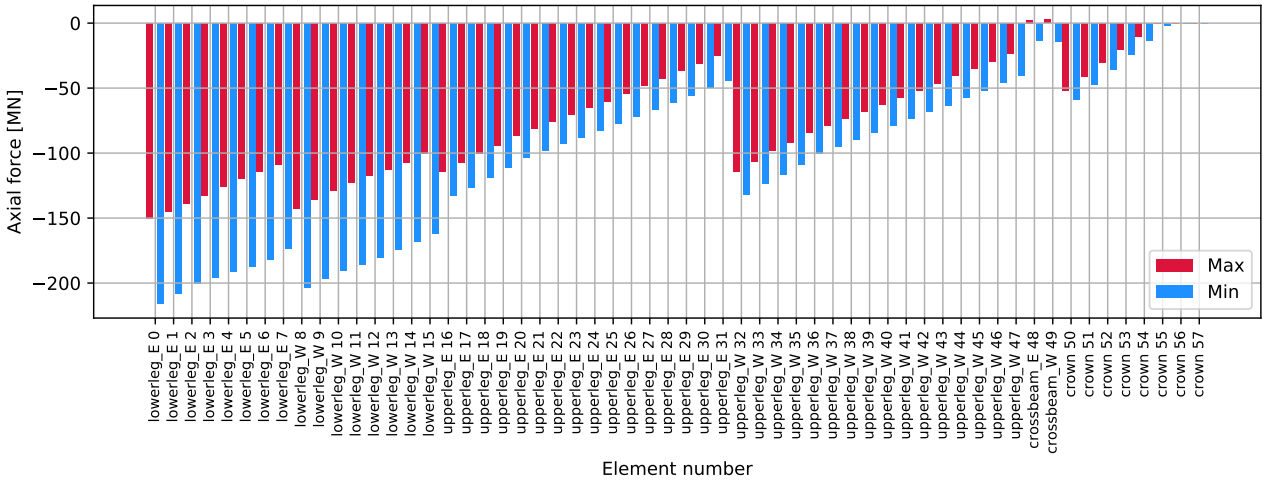

Figure 3.1359: P A5 180deg - tower: Axial force [MN]

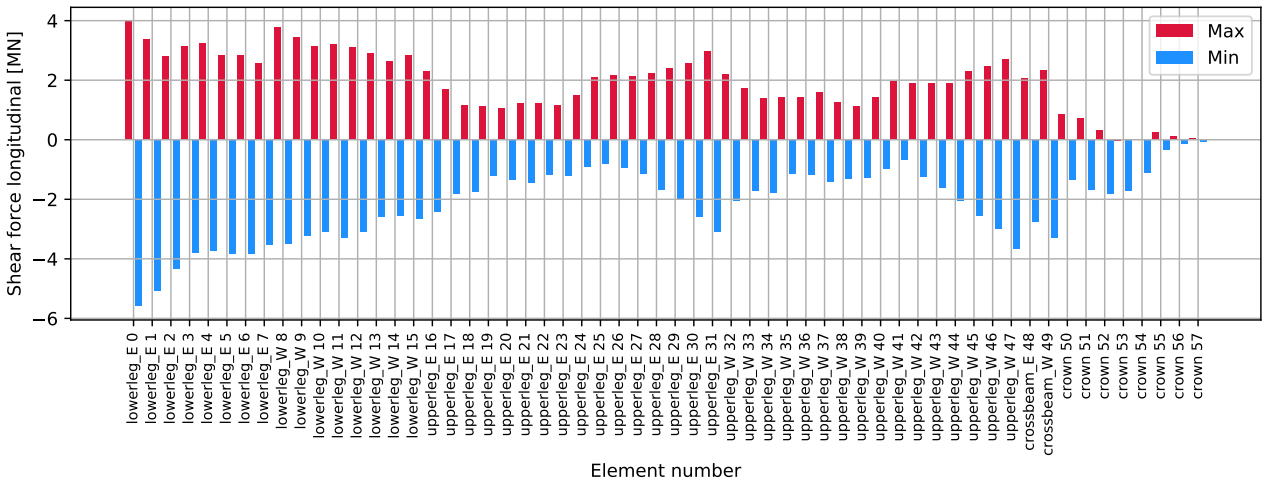

Figure 3.1360: P A5 180deg - tower: Shear force longitudinal [MN]

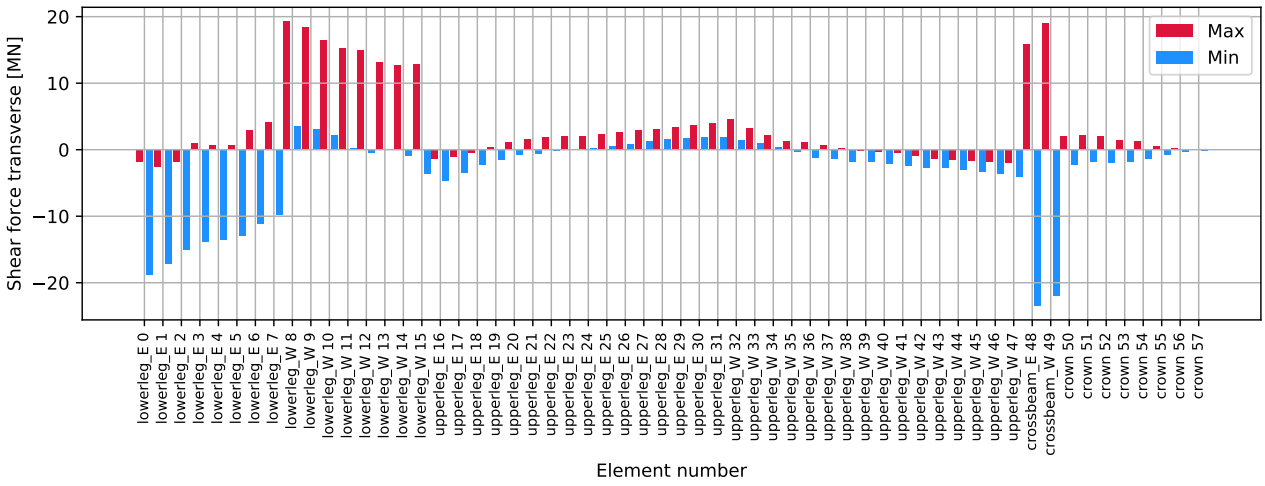

Figure 3.1361: P A5 180deg - tower: Shear force transverse [MN]

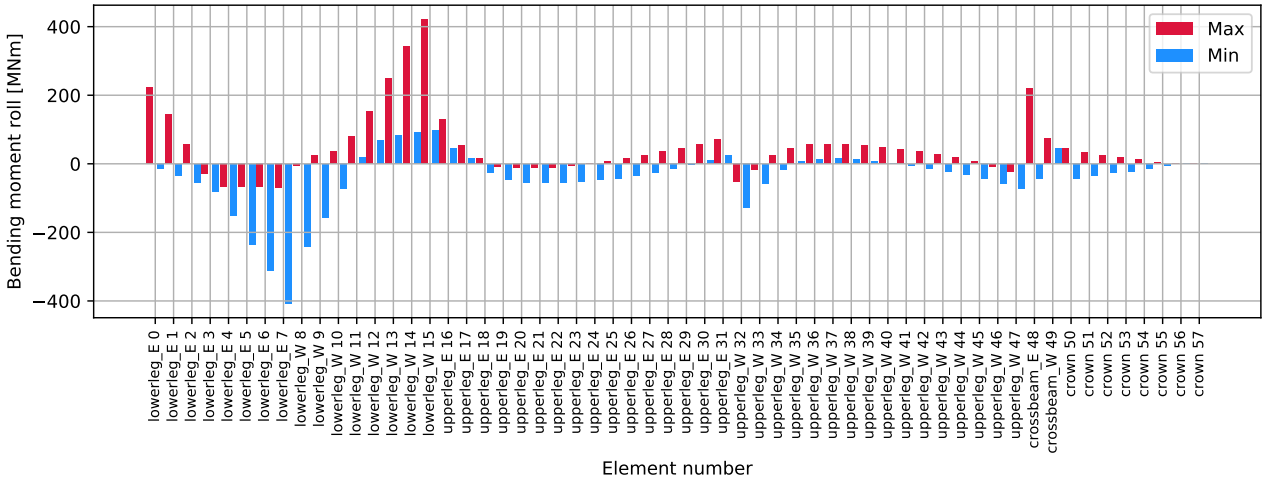

Figure 3.1362: P A5 180deg - tower: Bending moment roll [MNm]

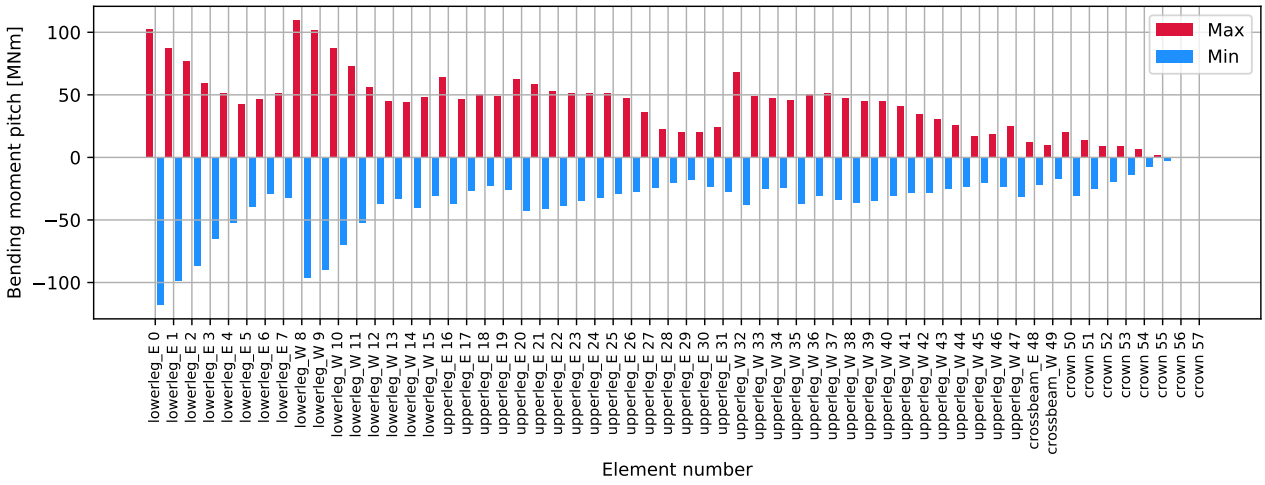

Figure 3.1363: P A5 180deg - tower: Bending moment pitch [MNm]

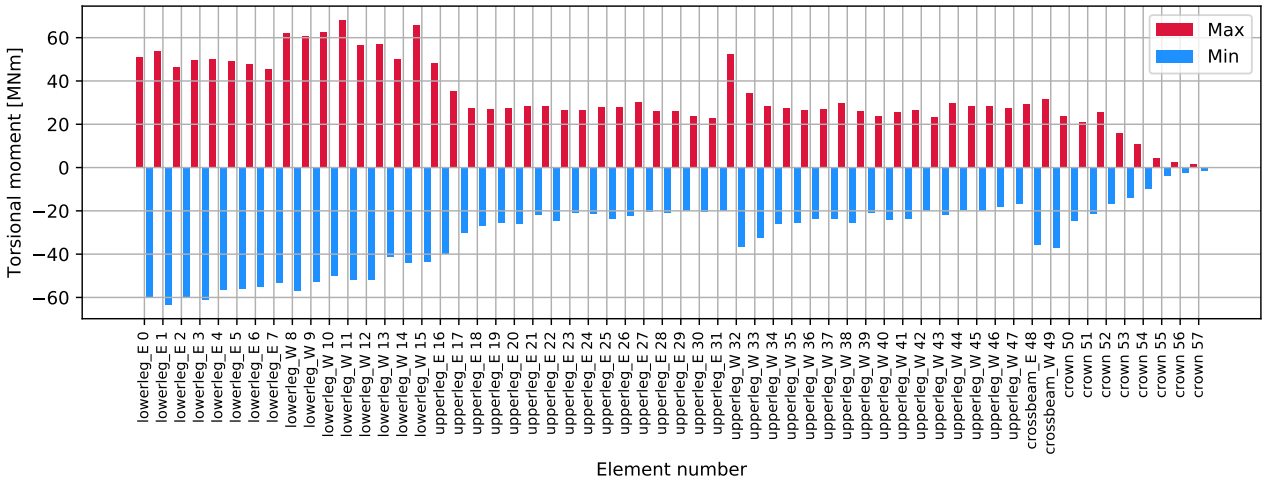

Figure 3.1364: P A5 180deg - tower: Torsional moment [MNm]

3.30.3 Time series

Note : Time series are filtered using a Saviotzky-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

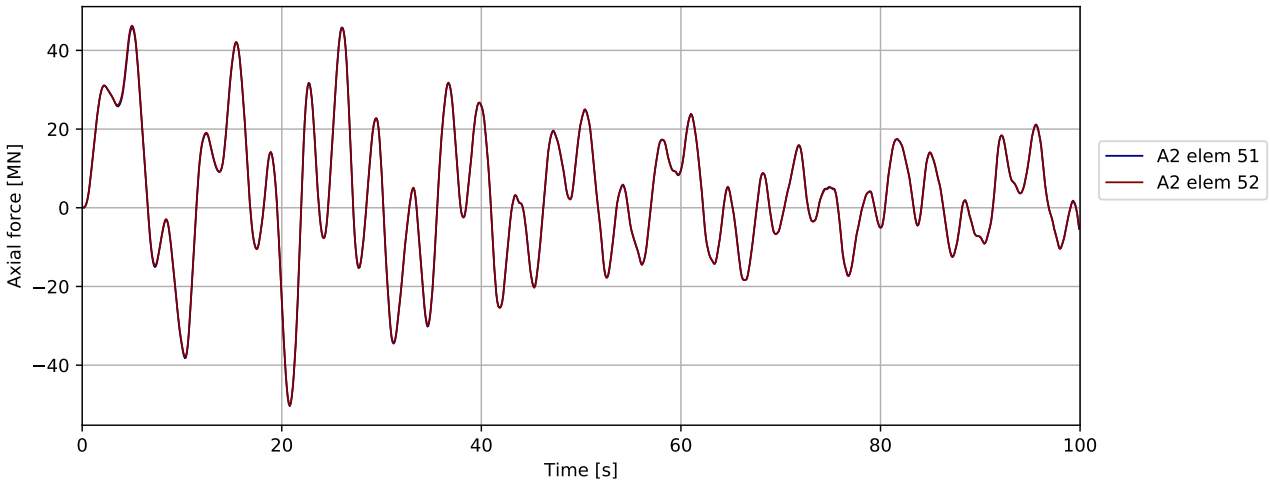

Figure 3.1365: P A5 180deg - bridgegirder @ pylon: Axial force [MN]

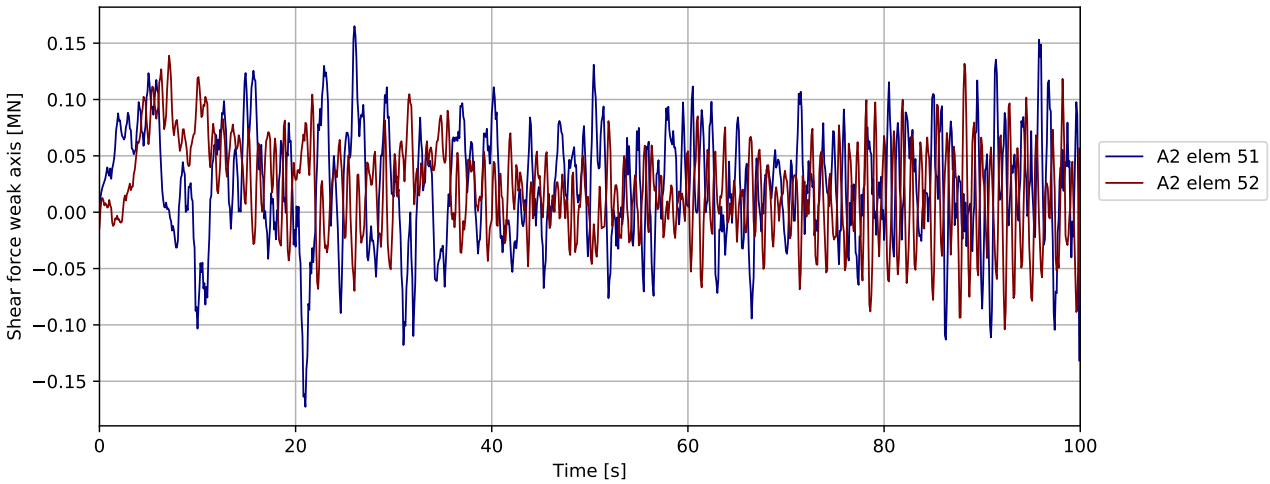

Figure 3.1366: P A5 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

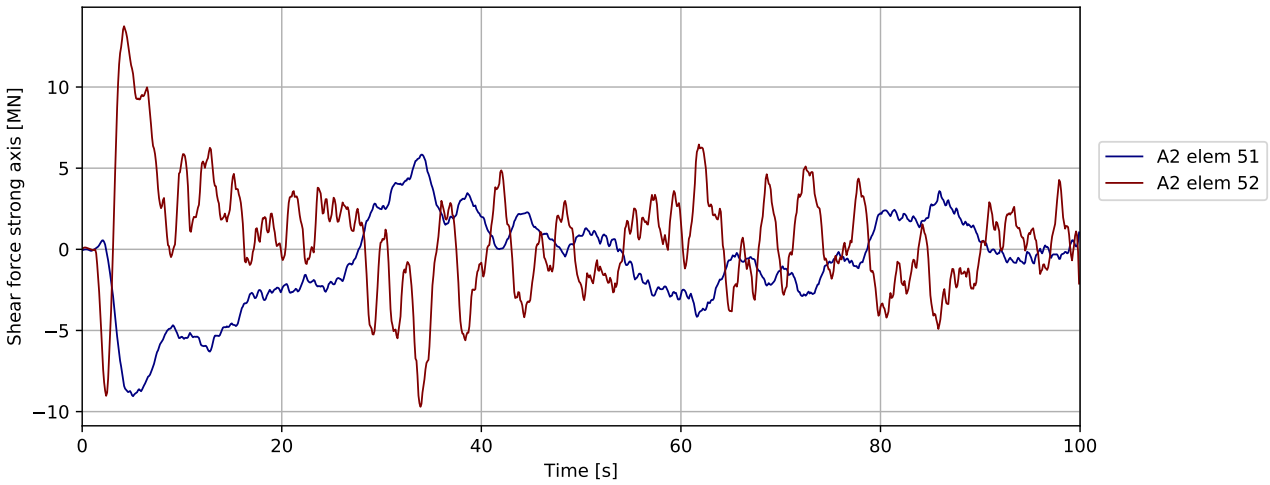

Figure 3.1367: P A5 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

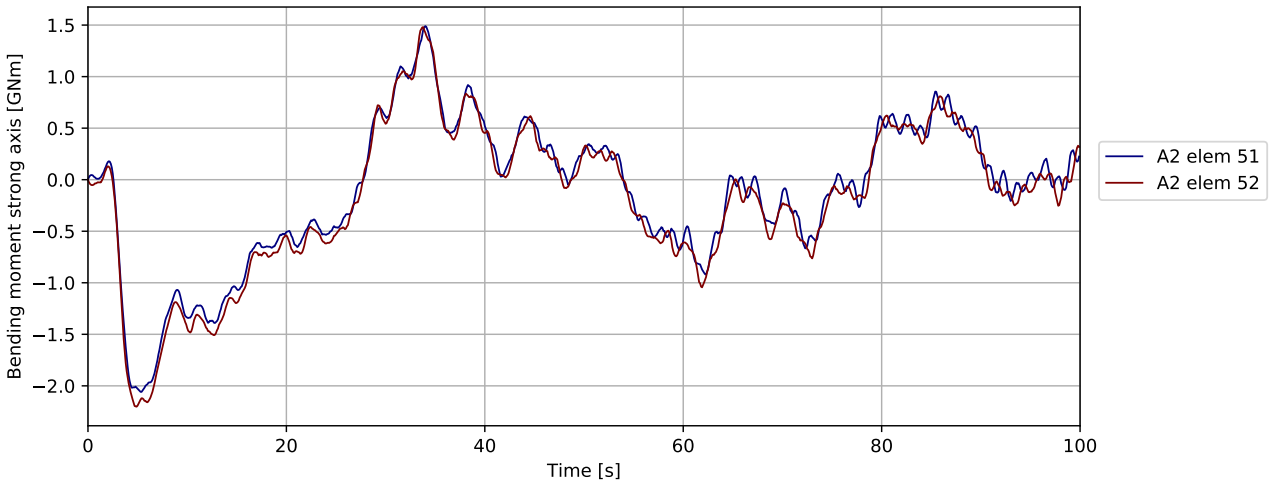

Figure 3.1368: P A5 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

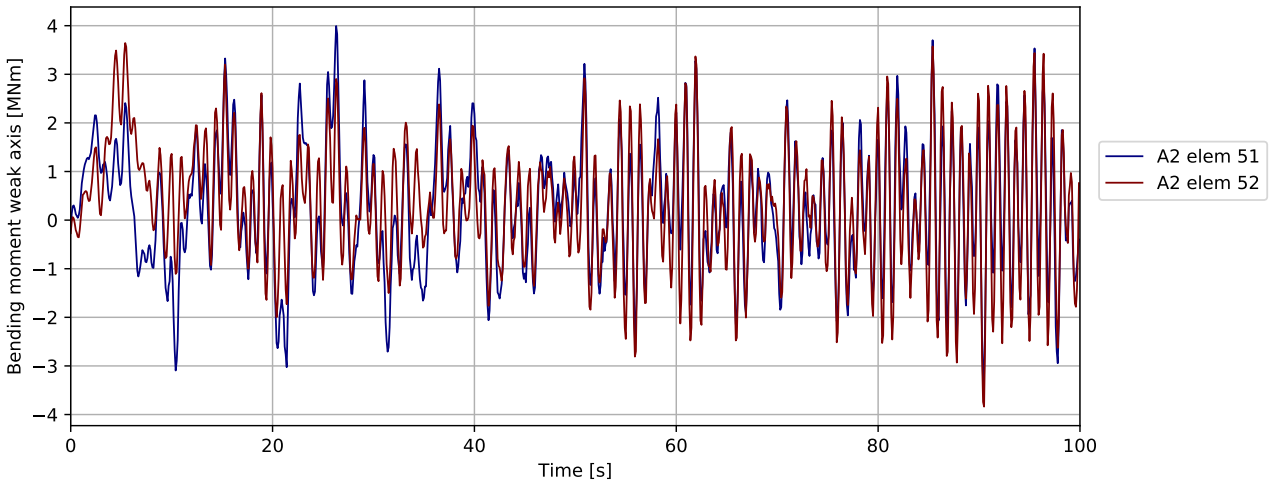

Figure 3.1369: P A5 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

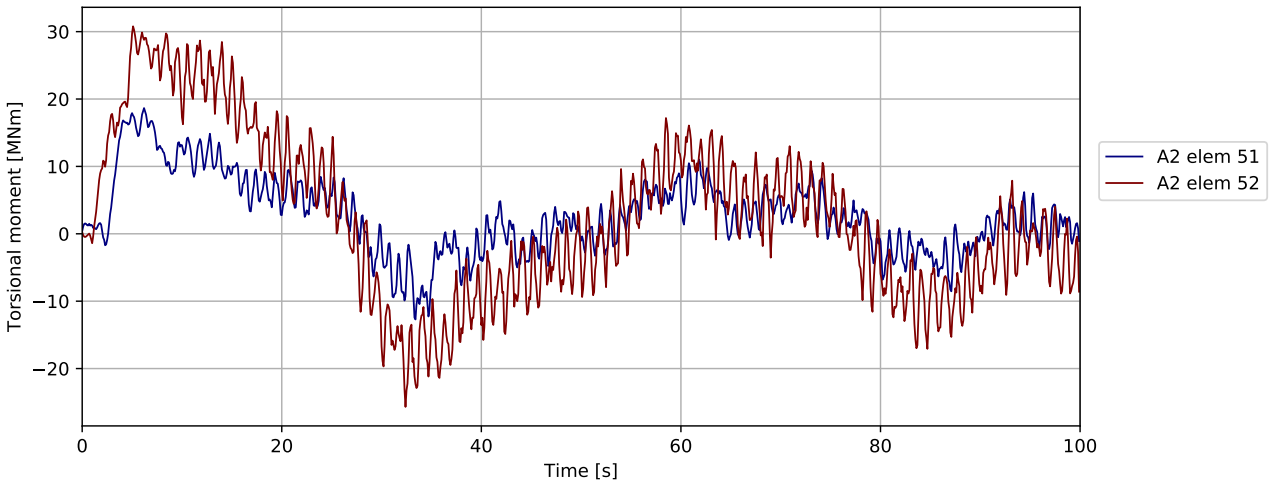

Figure 3.1370: P A5 180deg - bridgegirder @ pylon: Torsional moment [MNm]

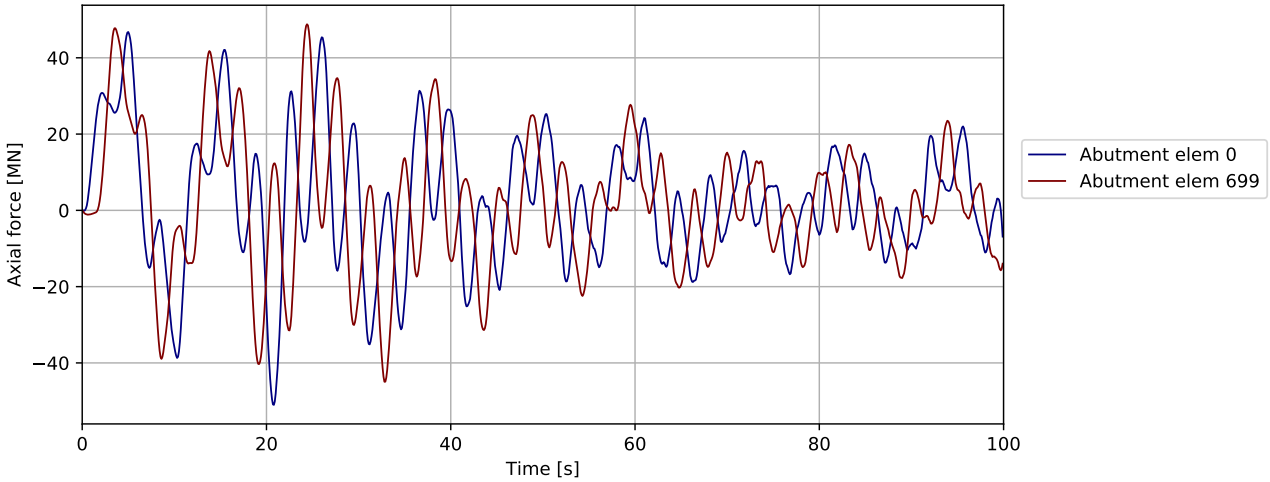

Figure 3.1371: P A5 180deg - bridgegirder @abutments: Axial force [MN]

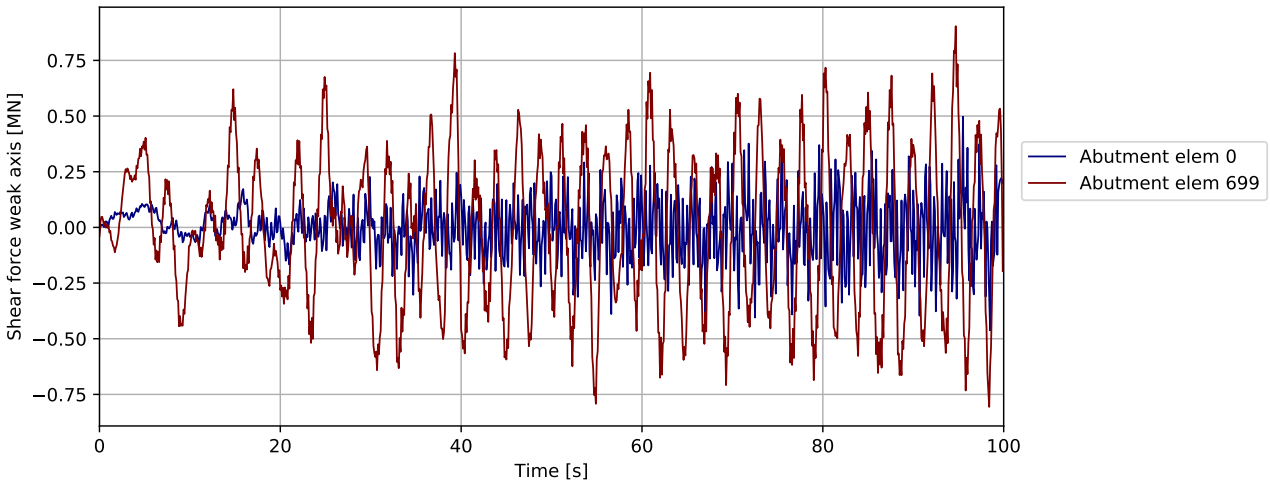

Figure 3.1372: P A5 180deg - bridgegirder @abutments: Shear force weak axis [MN]

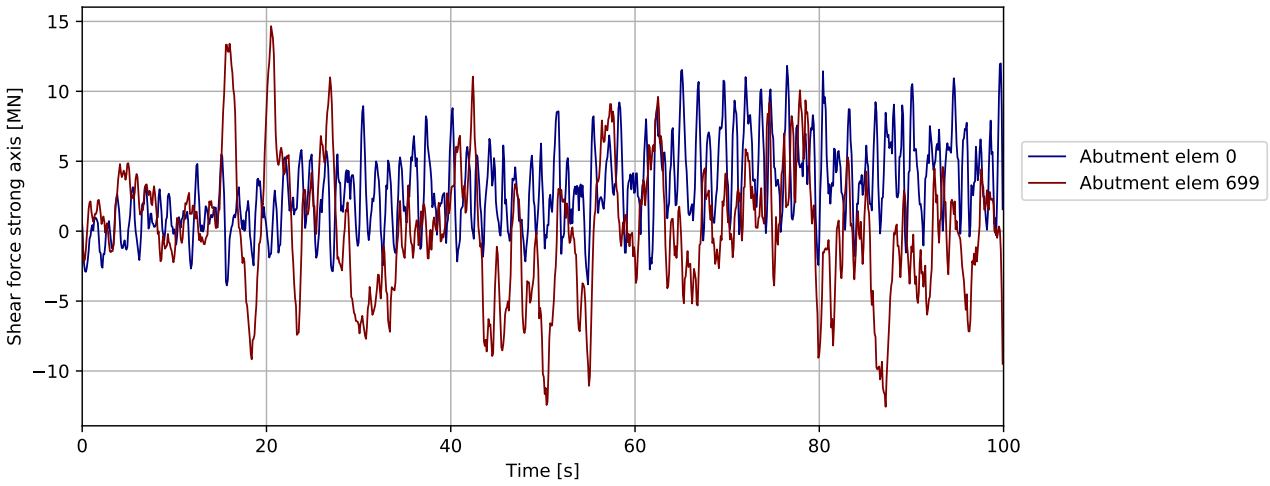

Figure 3.1373: P A5 180deg - bridgegirder @abutments: Shear force strong axis [MN]

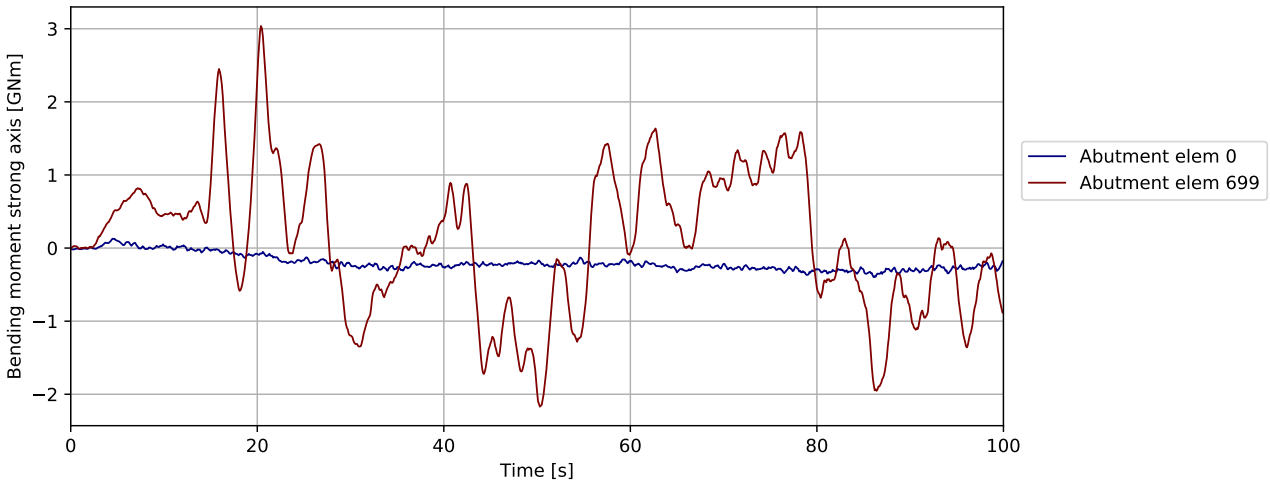

Figure 3.1374: P A5 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

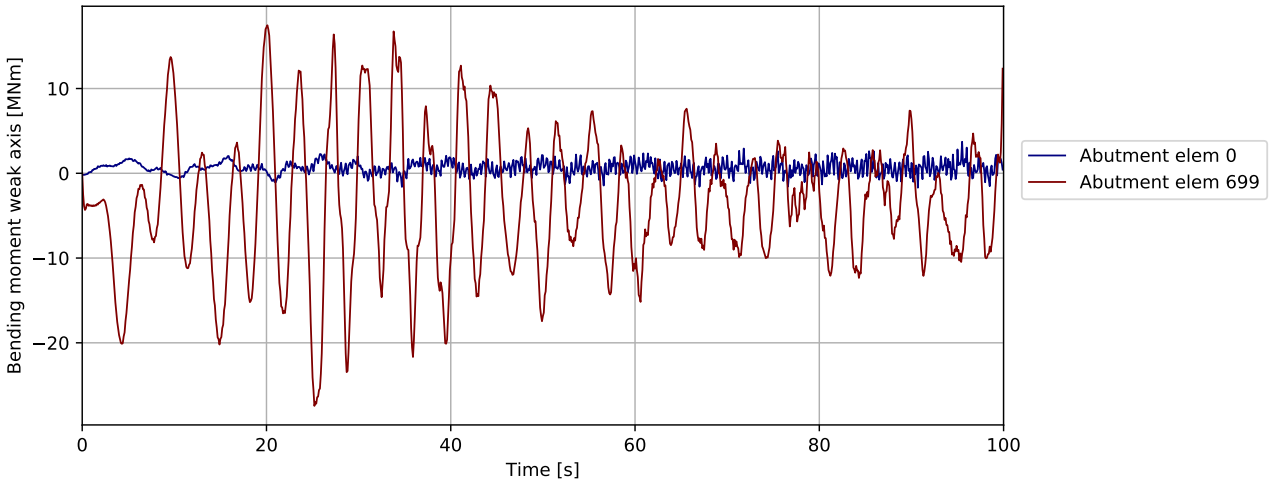

Figure 3.1375: P A5 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

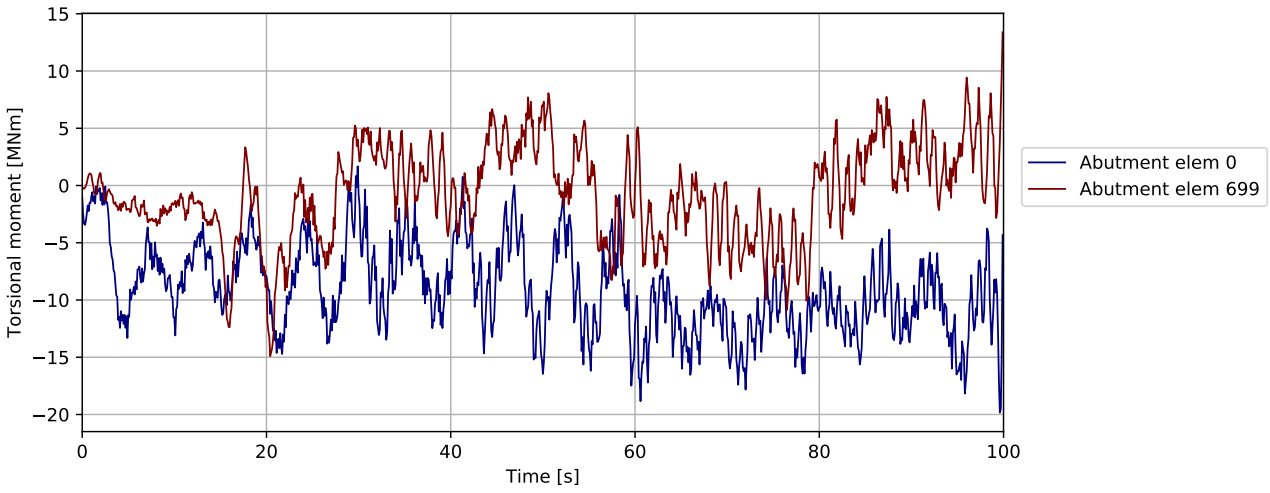

Figure 3.1376: P A5 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

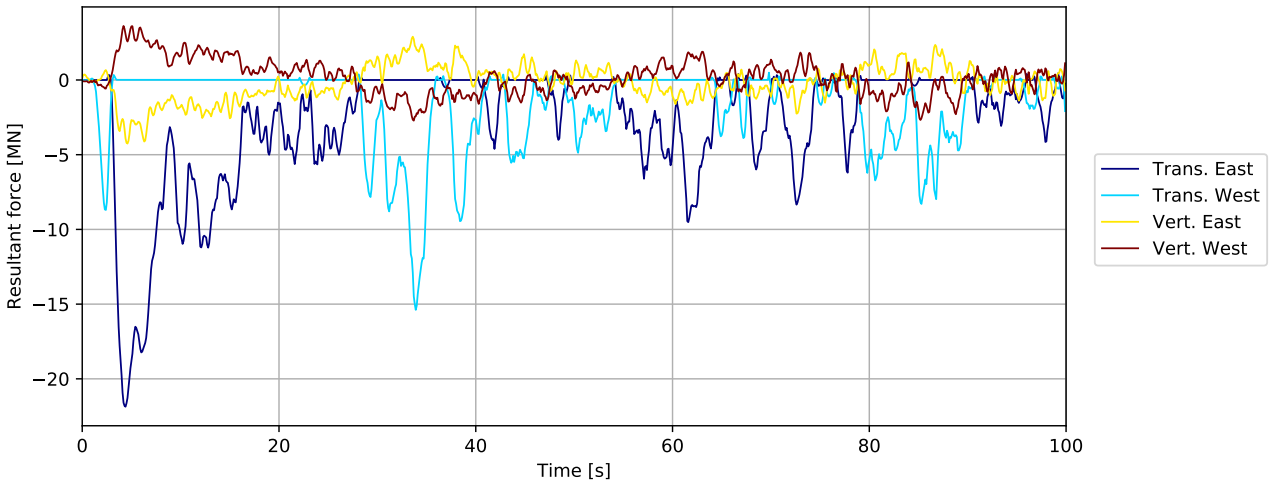

Figure 3.1377: P A5 180deg - bridgegirder supports in tower: Resultant force [MN]

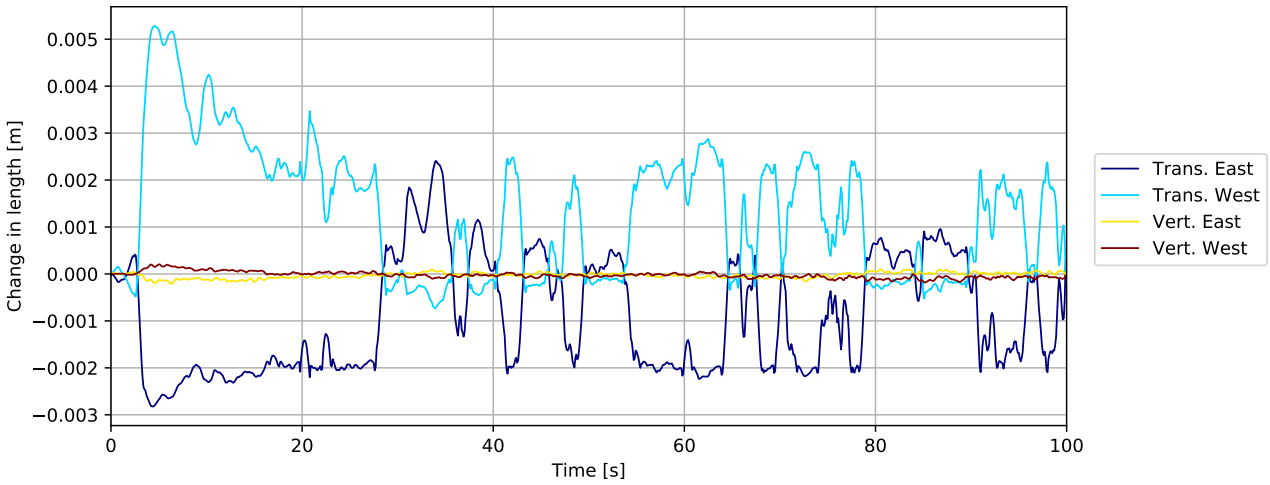

Figure 3.1378: P A5 180deg - bridgegirder supports in tower: Change in length [m]

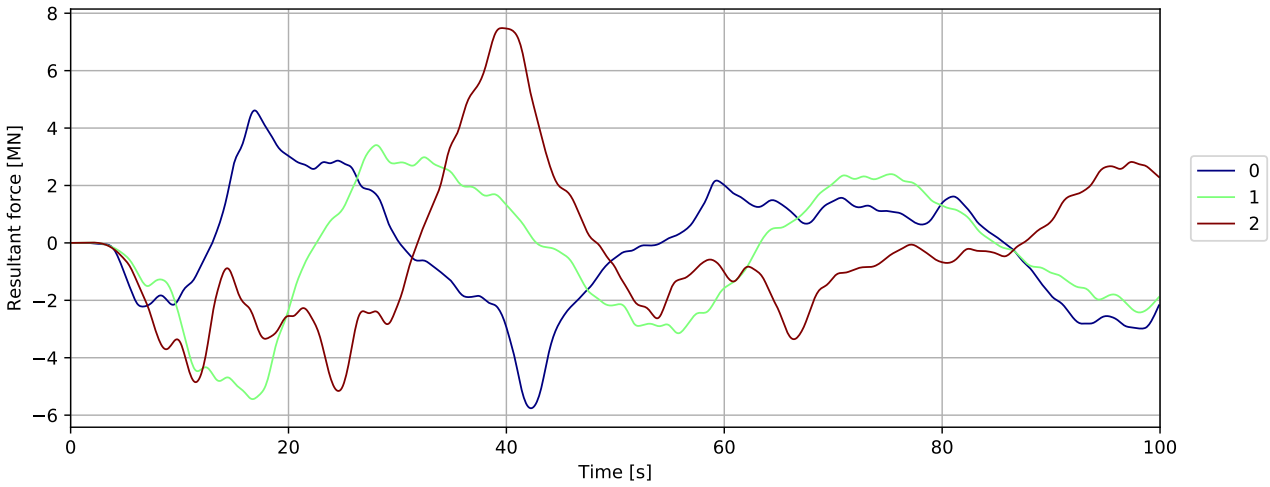

Figure 3.1379: Mooring force

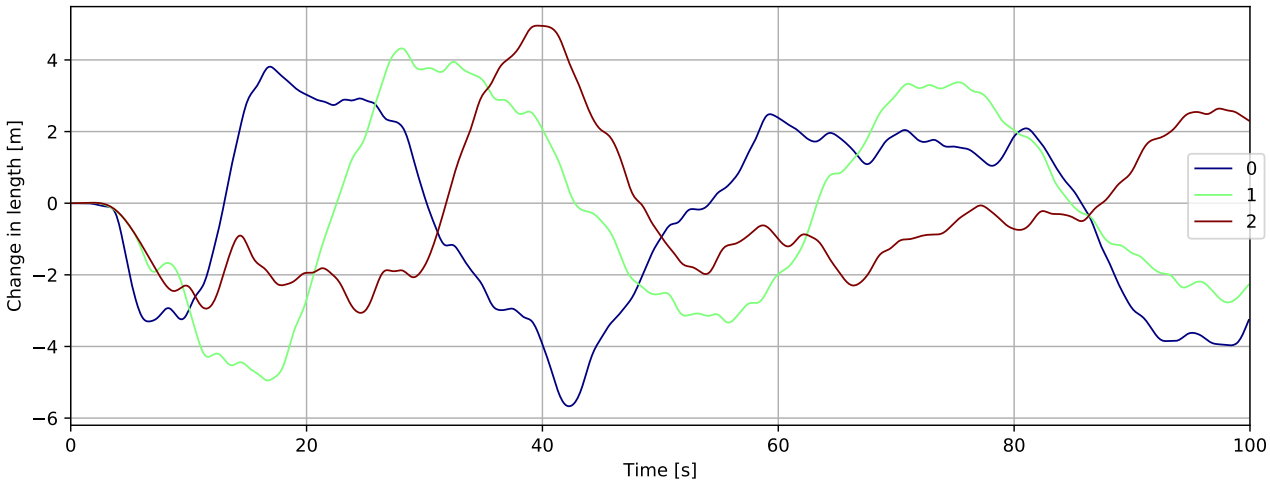

Figure 3.1380: Mooring displacement

3.31 PontoonA10 180deg

3.31.1 Overall response

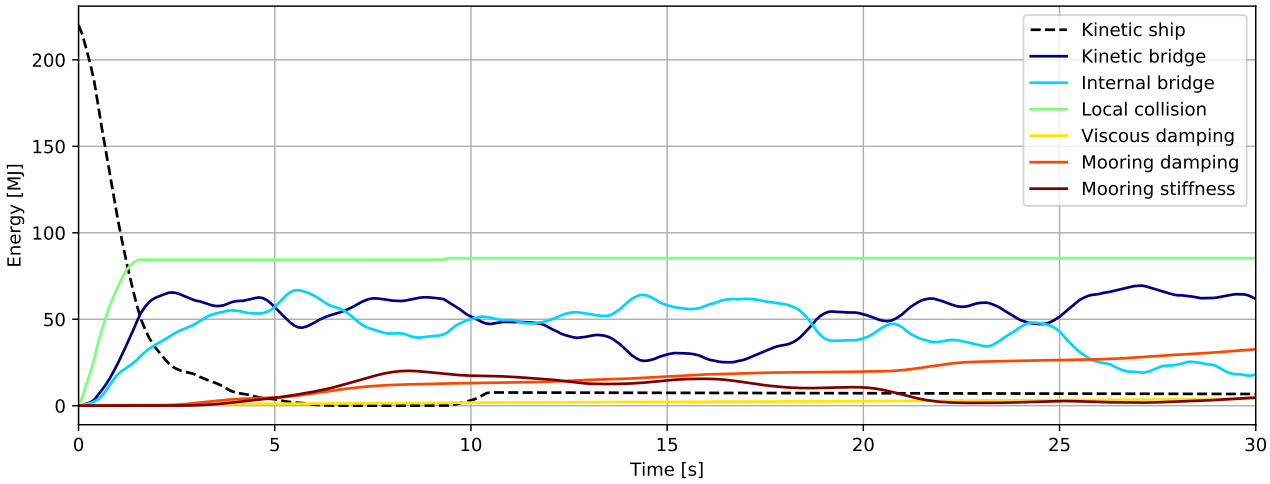

Figure 3.1381: Energy [MJ] - initial phase

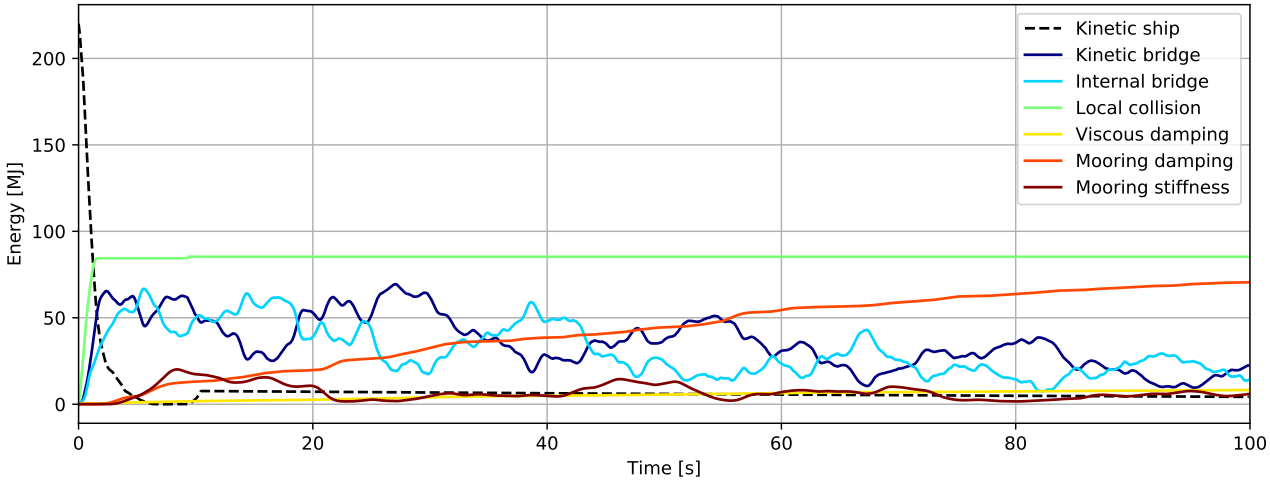

Figure 3.1382: Energy [MJ]

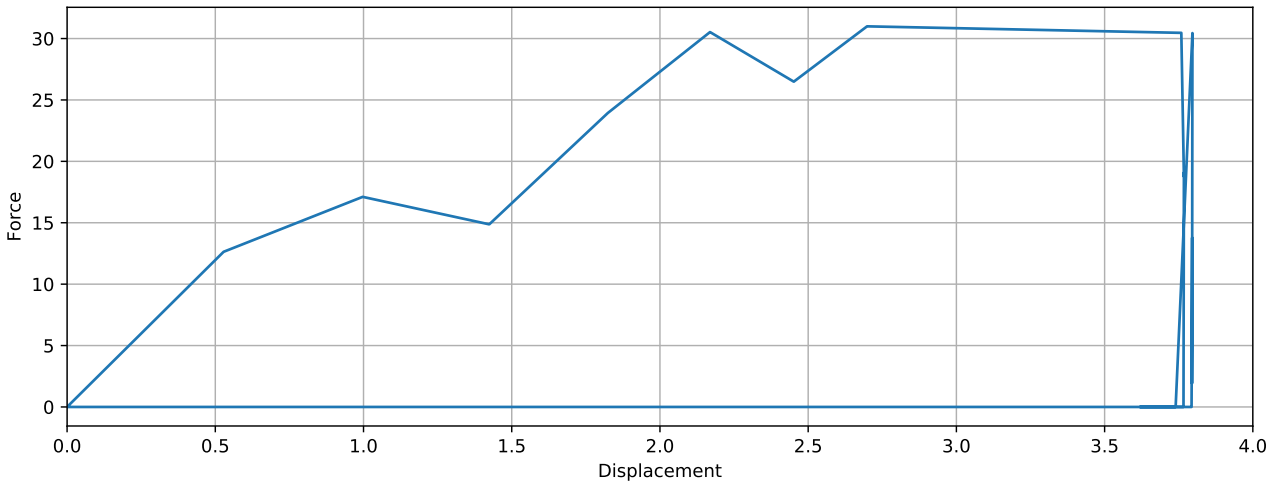

Figure 3.1383: Simulated local collision force-displacement

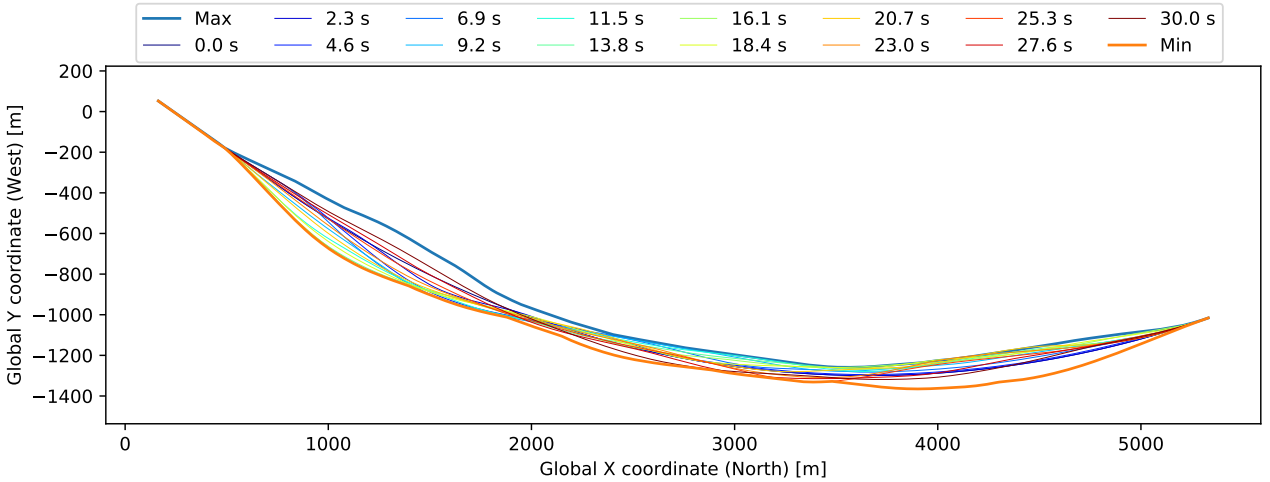

Figure 3.1384: Bridgegirder deflection (10x displacment scaling)

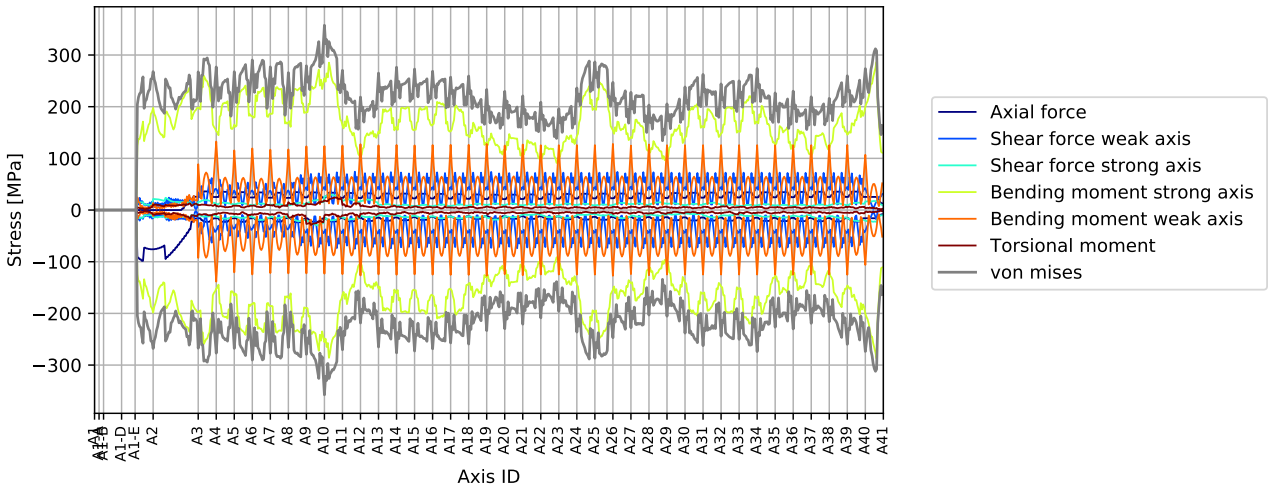

Figure 3.1385: Stress envelope from all force components

3.31.2 Envelope plots

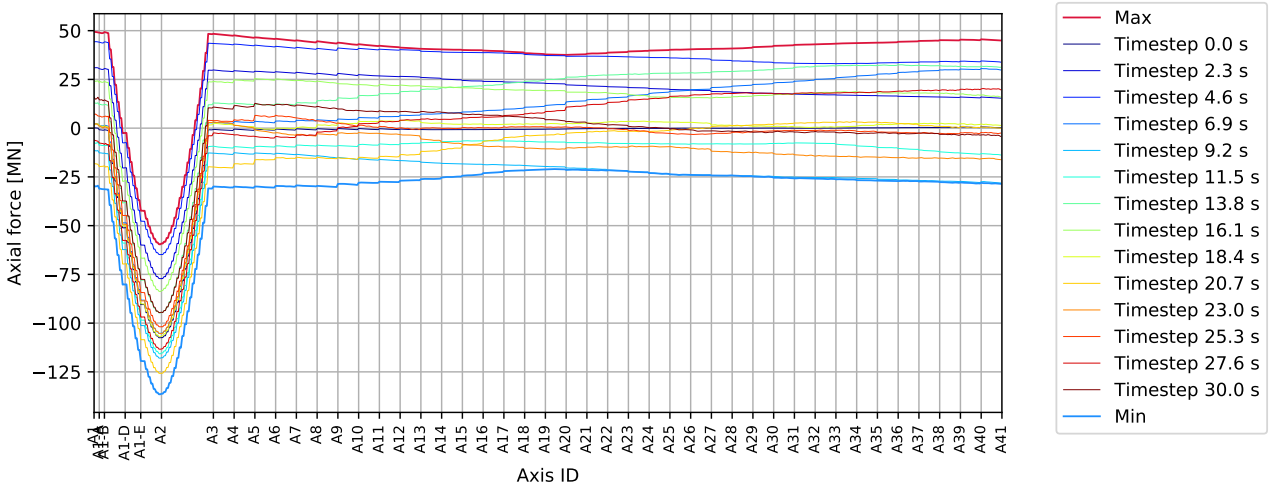

Figure 3.1386: P A10 180deg - bridgegirder : Axial force [MN]

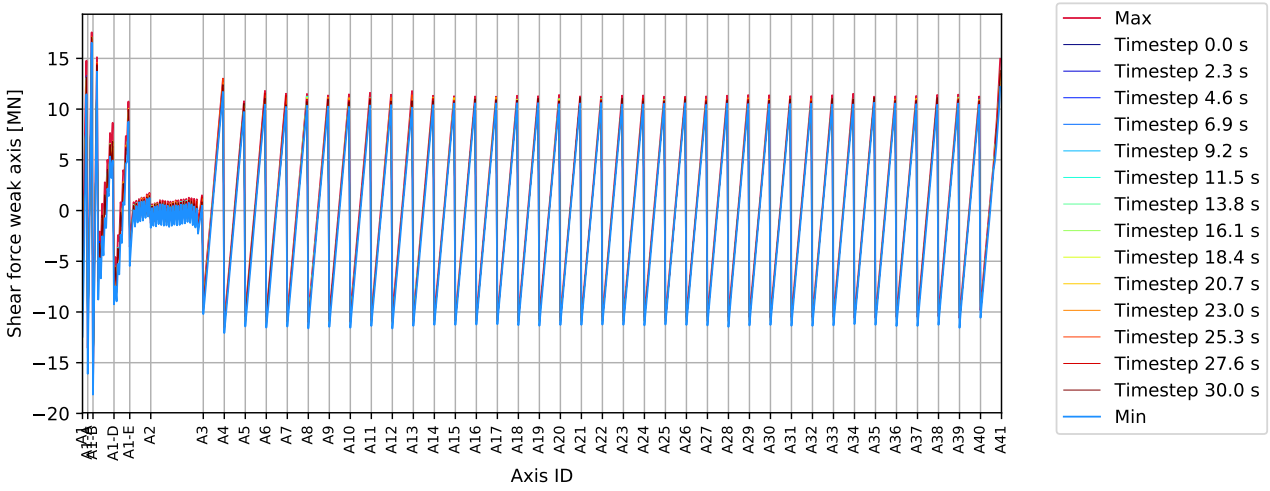

Figure 3.1387: P A10 180deg - bridgegirder : Shear force weak axis [MN]

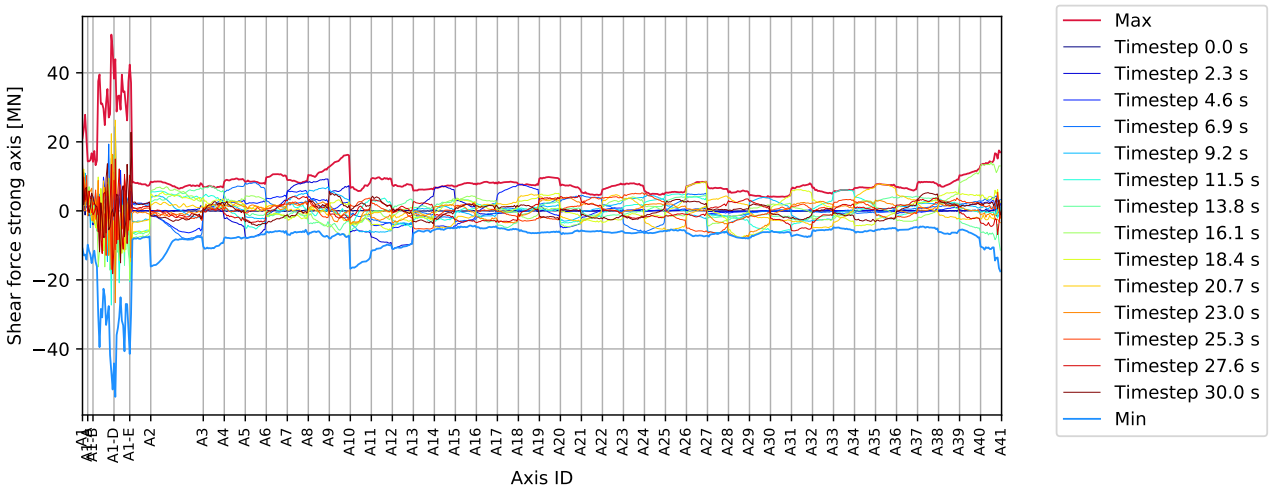

Figure 3.1388: P A10 180deg - bridgegirder : Shear force strong axis [MN]

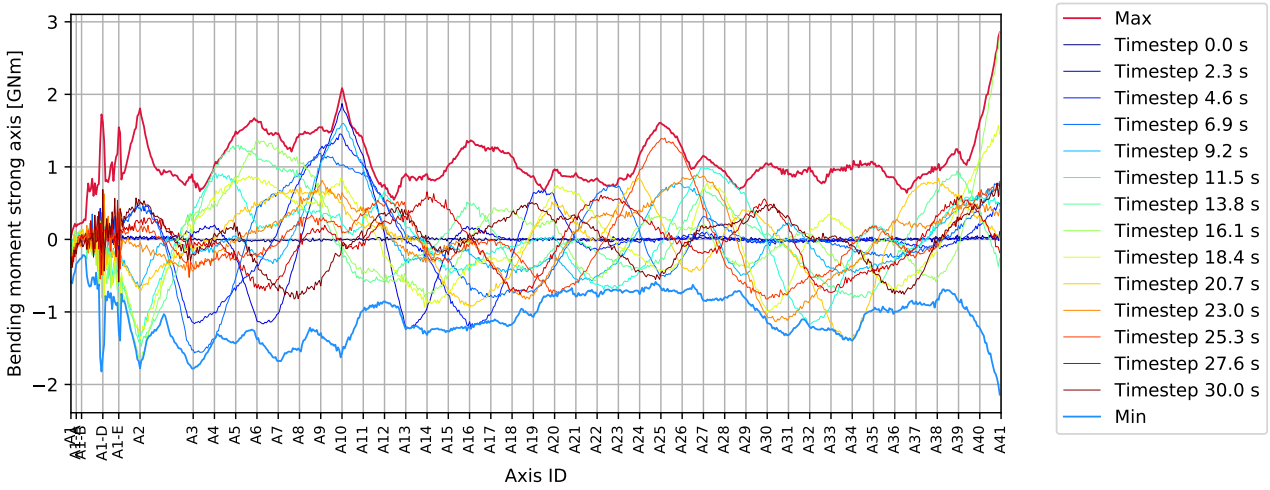

Figure 3.1389: P A10 180deg - bridgegirder : Bending moment strong axis [GNm]

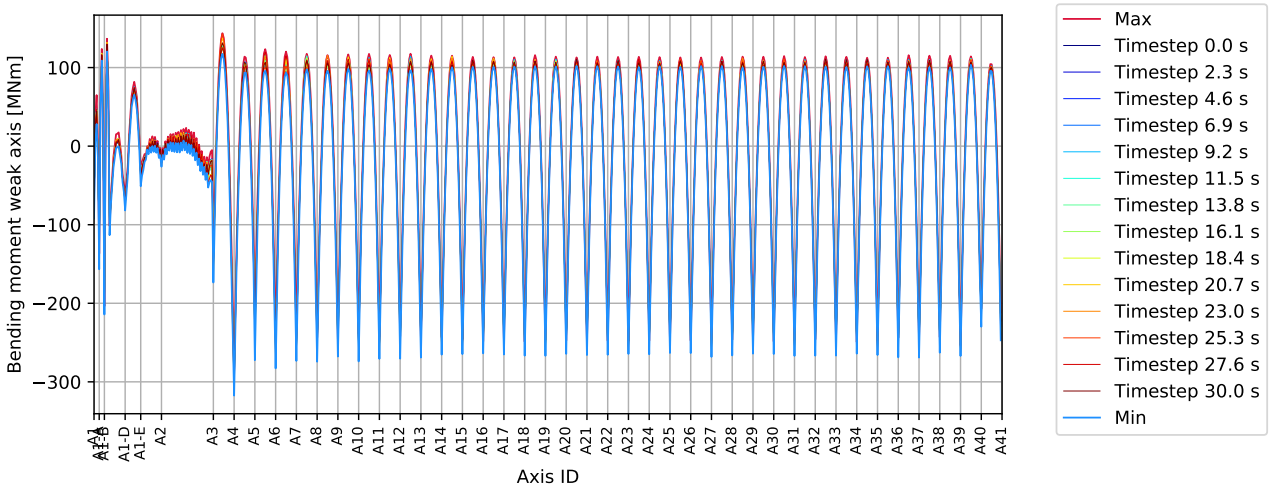

Figure 3.1390: P A10 180deg - bridgegirder : Bending moment weak axis [MNm]

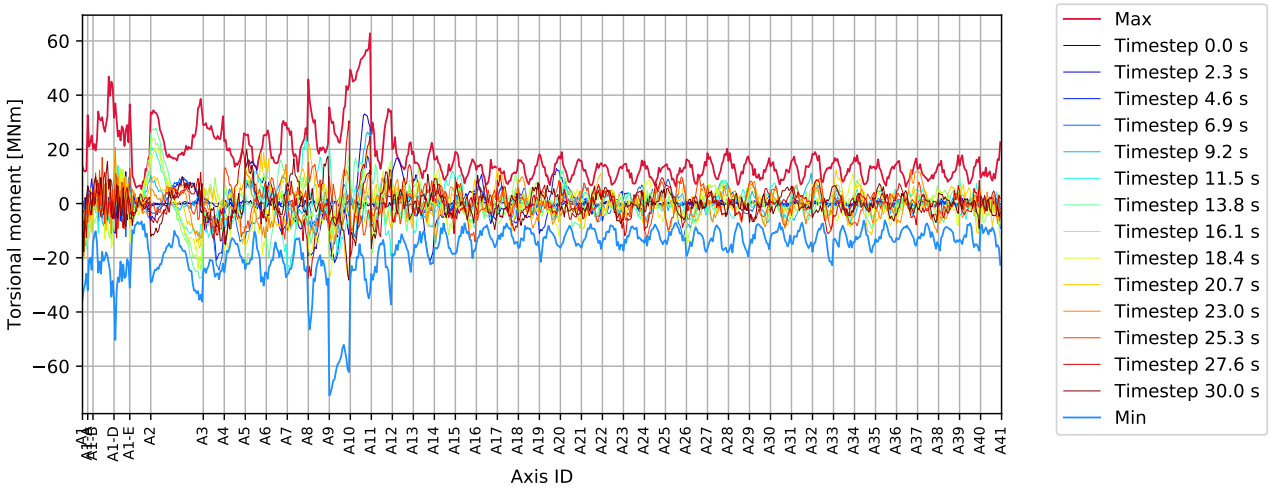

Figure 3.1391: P A10 180deg - bridgegirder : Torsional moment [MNm]

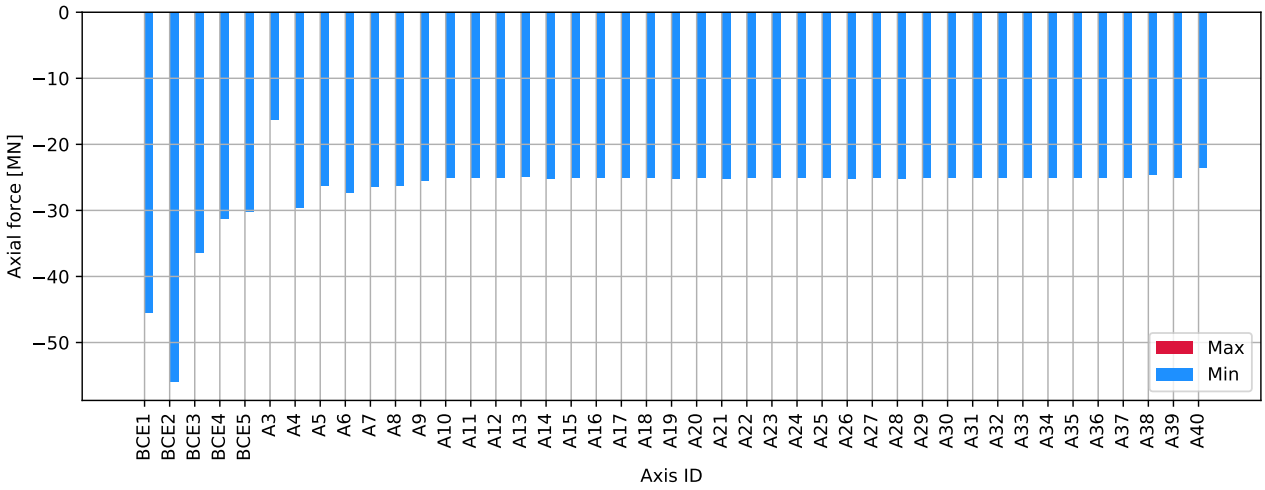

Figure 3.1392: P A10 180deg - columns bottom : Axial force [MN]

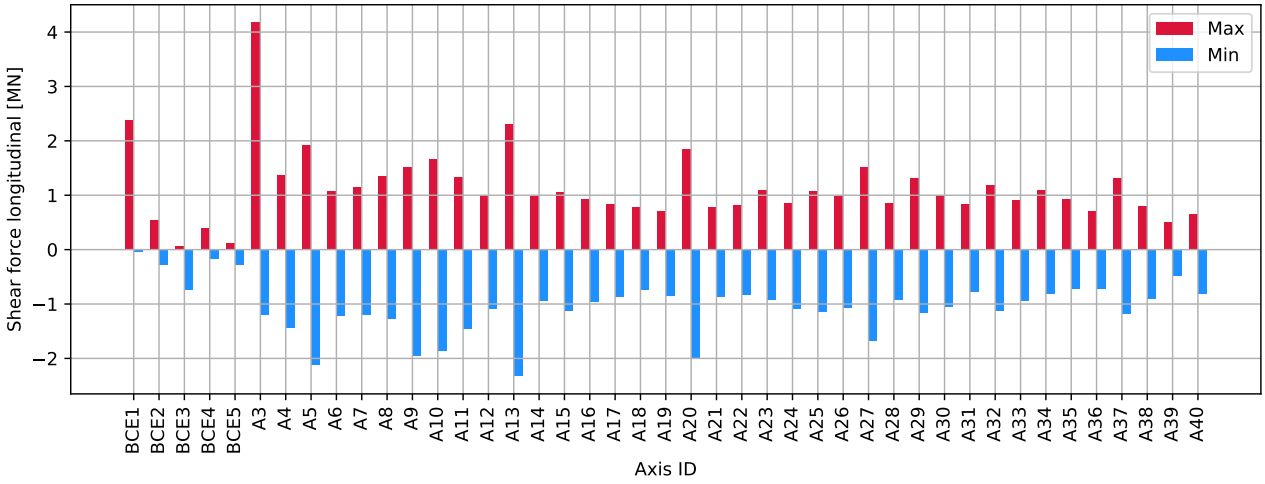

Figure 3.1393: P A10 180deg - columns bottom : Shear force longitudinal [MN]

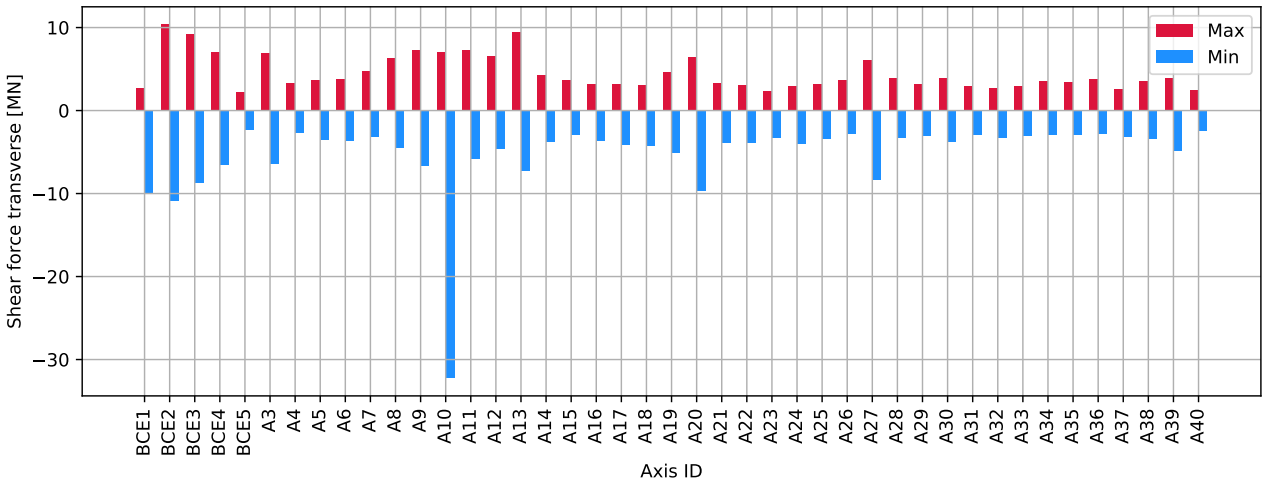

Figure 3.1394: P A10 180deg - columns bottom : Shear force transverse [MN]

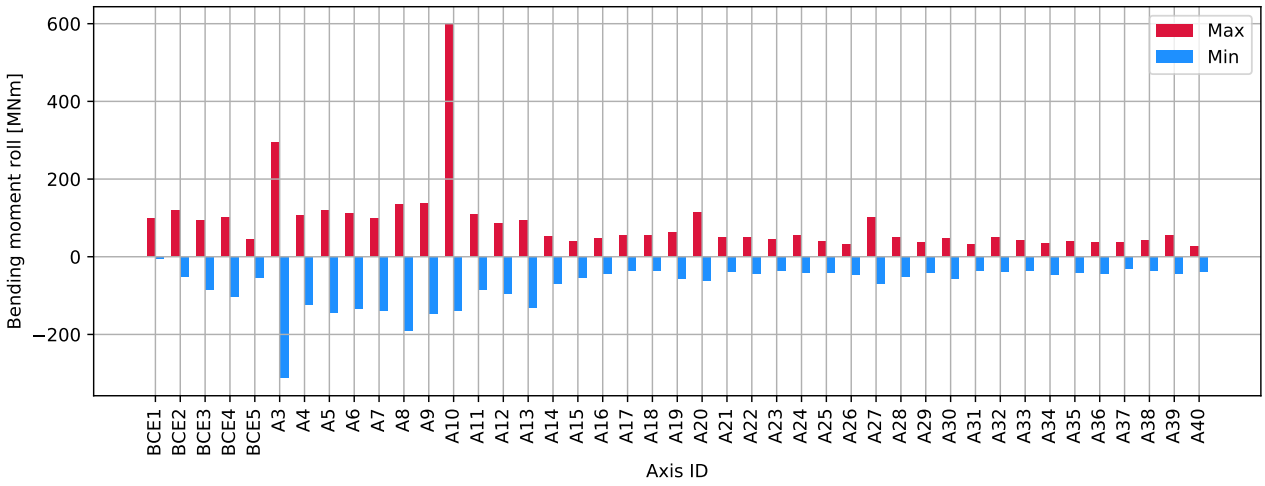

Figure 3.1395: P A10 180deg - columns bottom : Bending moment roll [MNm]

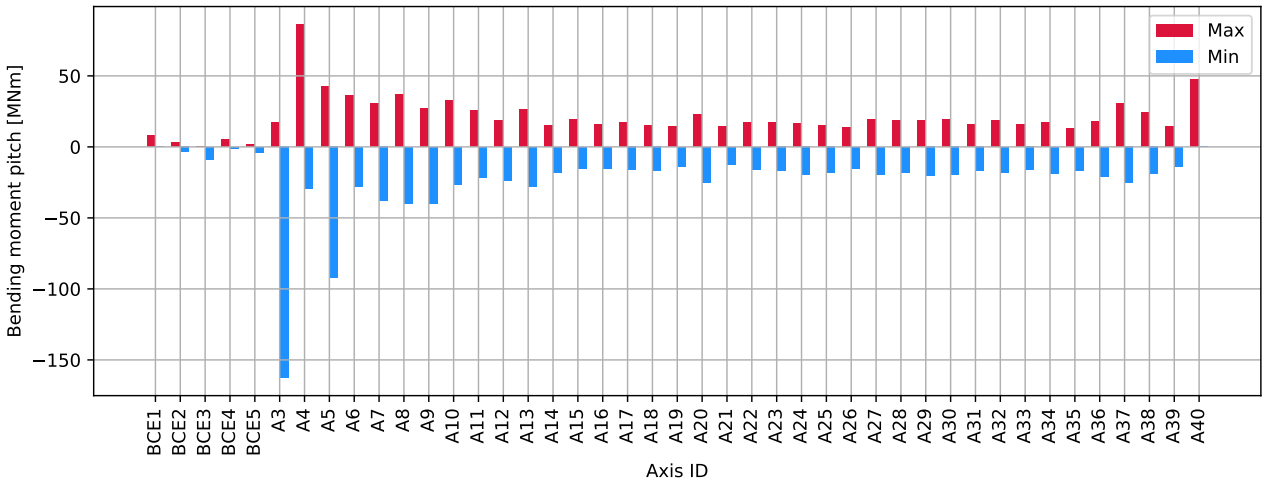

Figure 3.1396: P A10 180deg - columns bottom : Bending moment pitch [MNm]

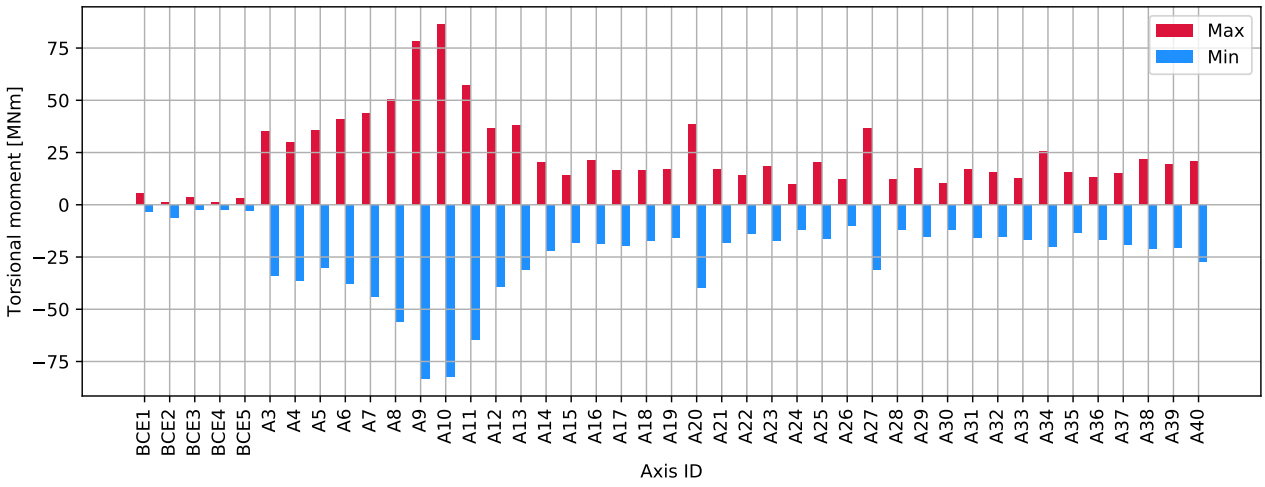

Figure 3.1397: P A10 180deg - columns bottom : Torsional moment [MNm]

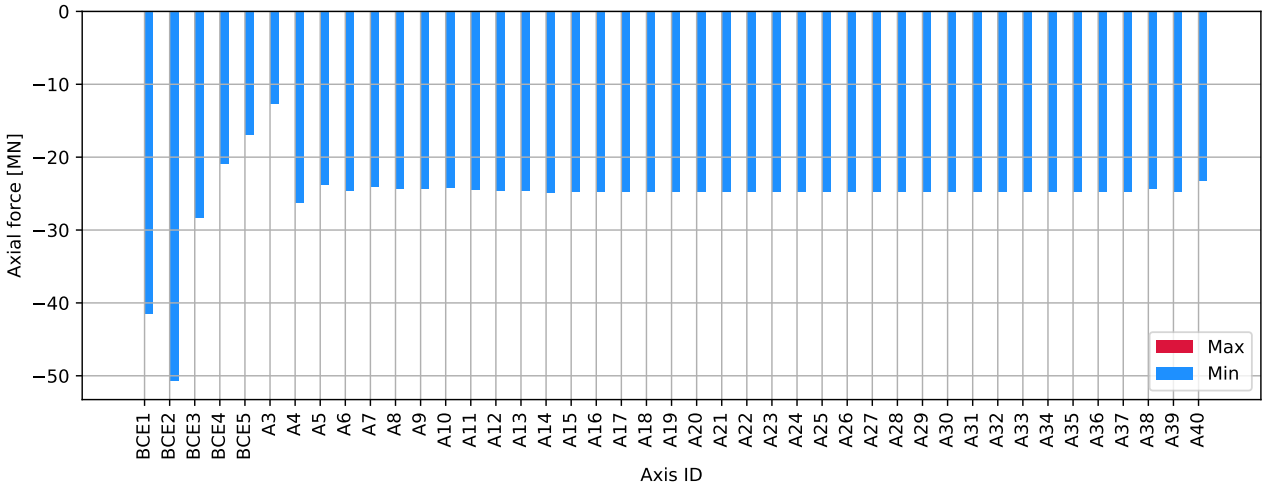

Figure 3.1398: P A10 180deg - columns top : Axial force [MN]

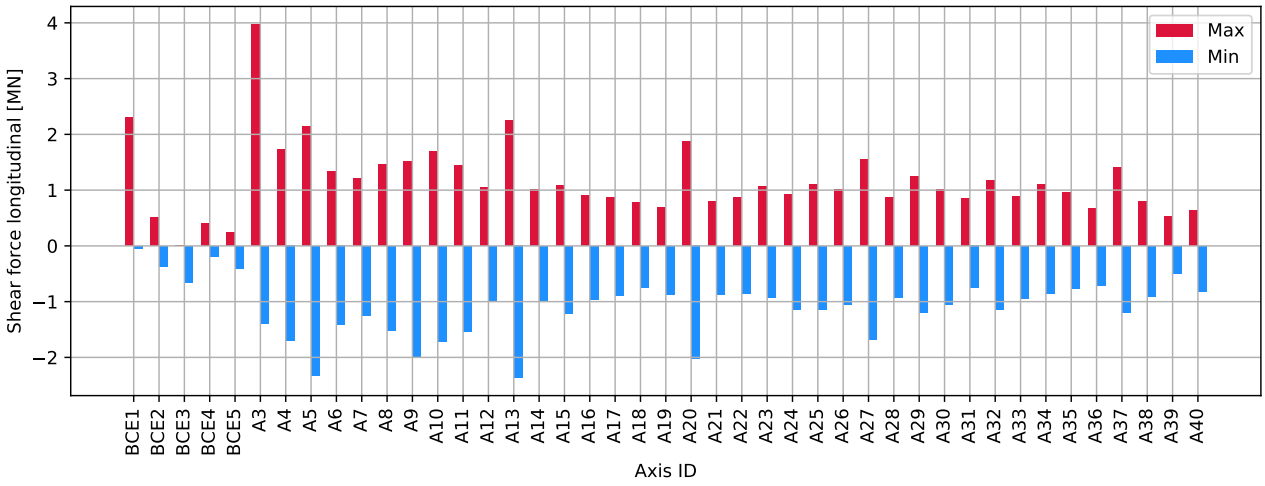

Figure 3.1399: P A10 180deg - columns top : Shear force longitudinal [MN]

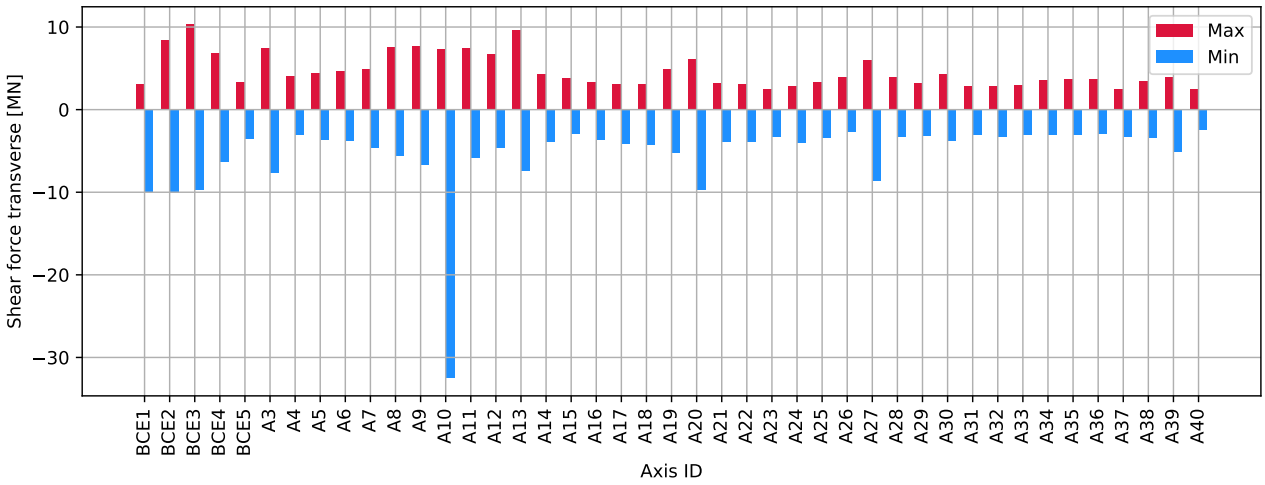

Figure 3.1400: P A10 180deg - columns top : Shear force transverse [MN]

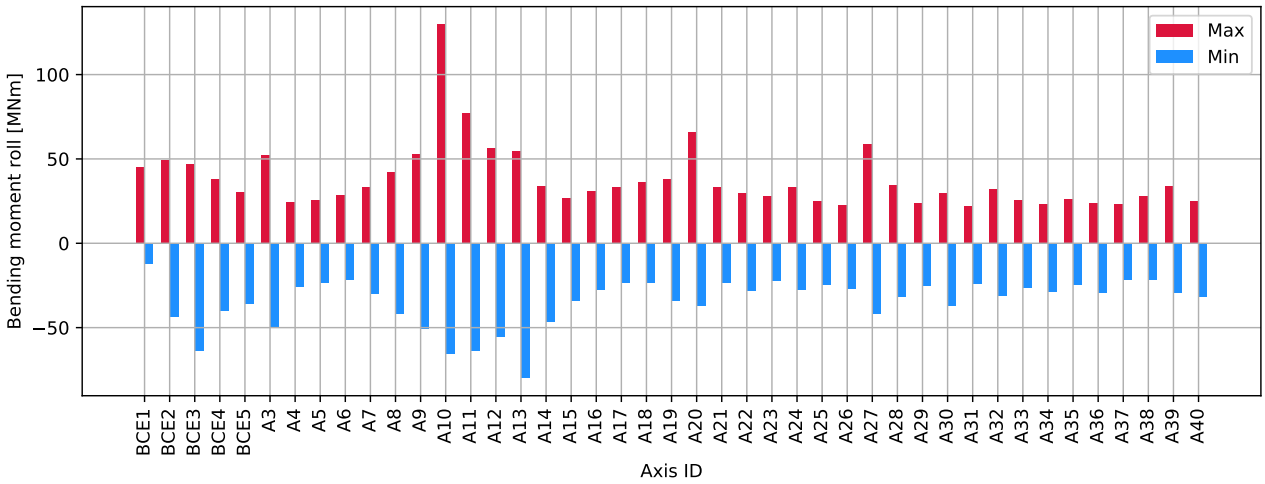

Figure 3.1401: P A10 180deg - columns top : Bending moment roll [MNm]

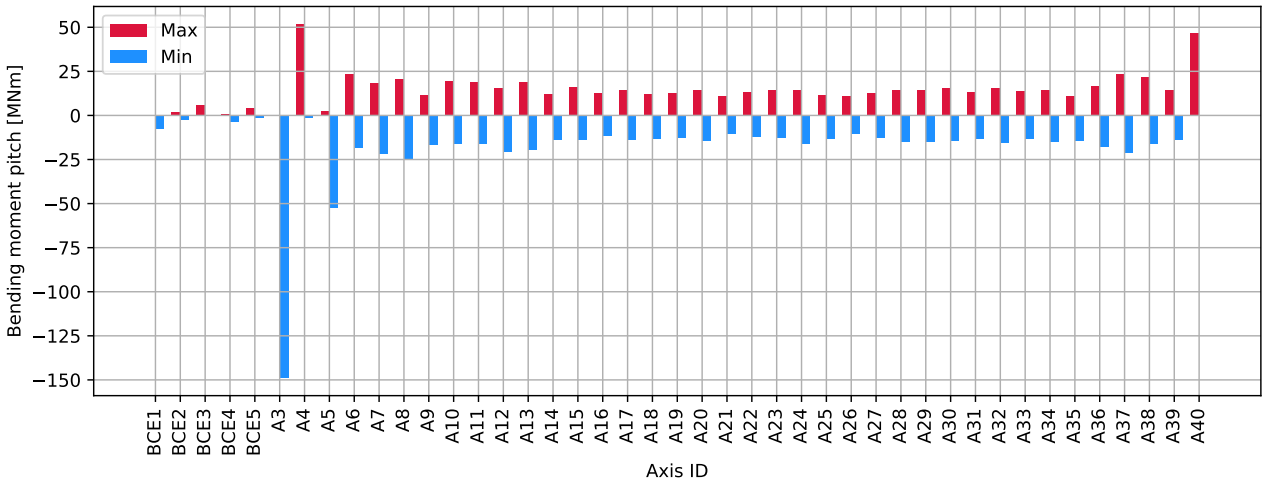

Figure 3.1402: P A10 180deg - columns top : Bending moment pitch [MNm]

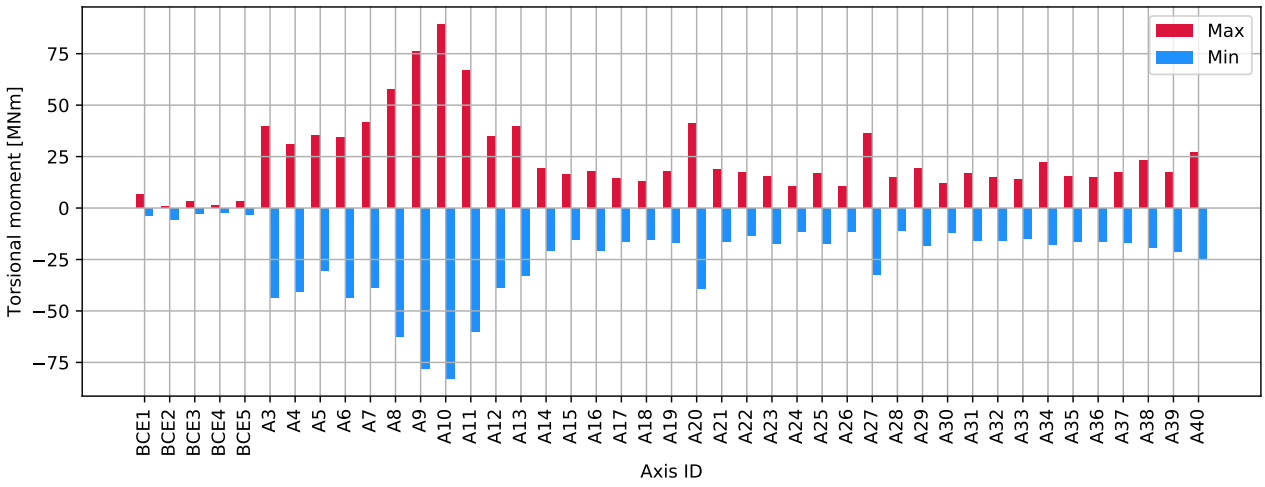

Figure 3.1403: P A10 180deg - columns top : Torsional moment [MNm]

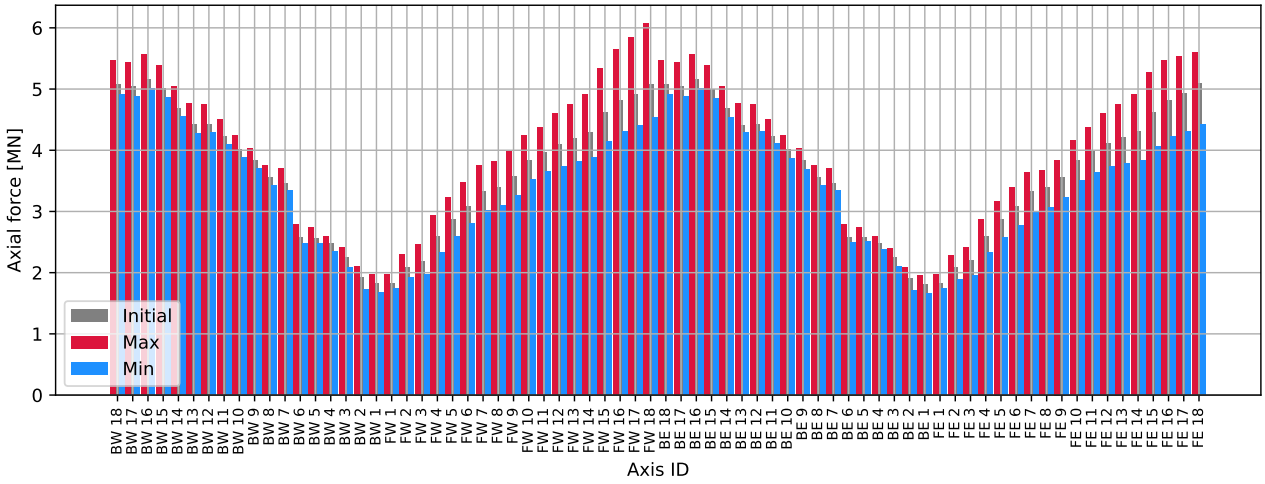

Figure 3.1404: P A10 180deg - cables : Axial force [MN]

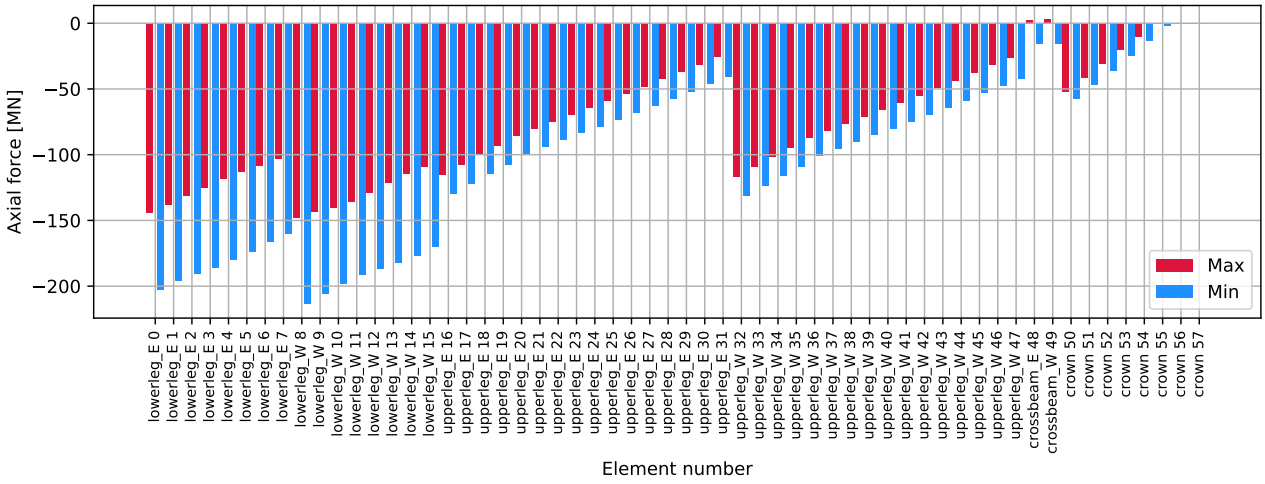

Figure 3.1405: P A10 180deg - tower: Axial force [MN]

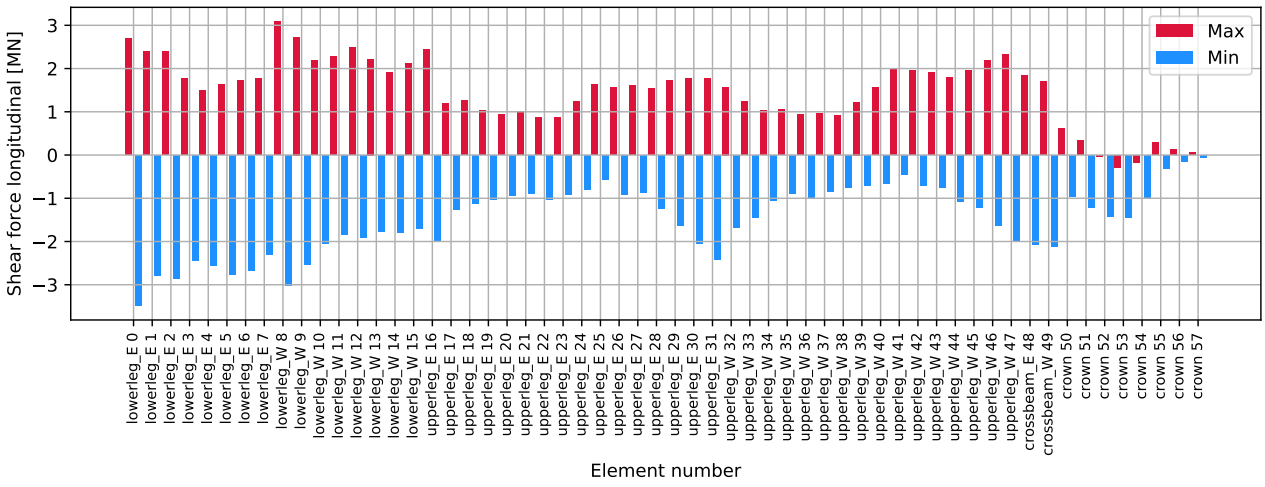

Figure 3.1406: P A10 180deg - tower: Shear force longitudinal [MN]

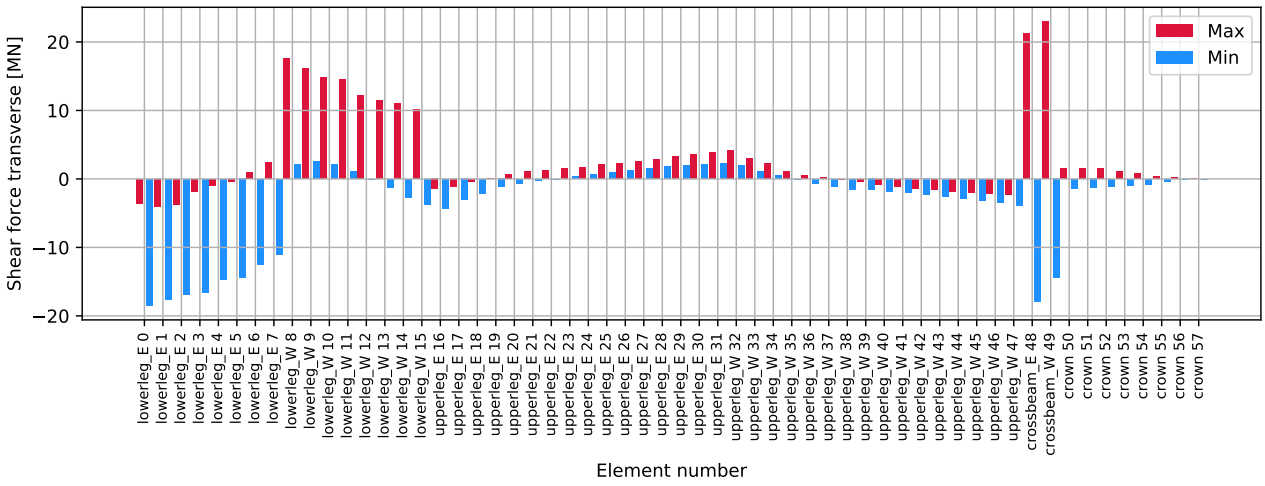

Figure 3.1407: P A10 180deg - tower: Shear force transverse [MN]

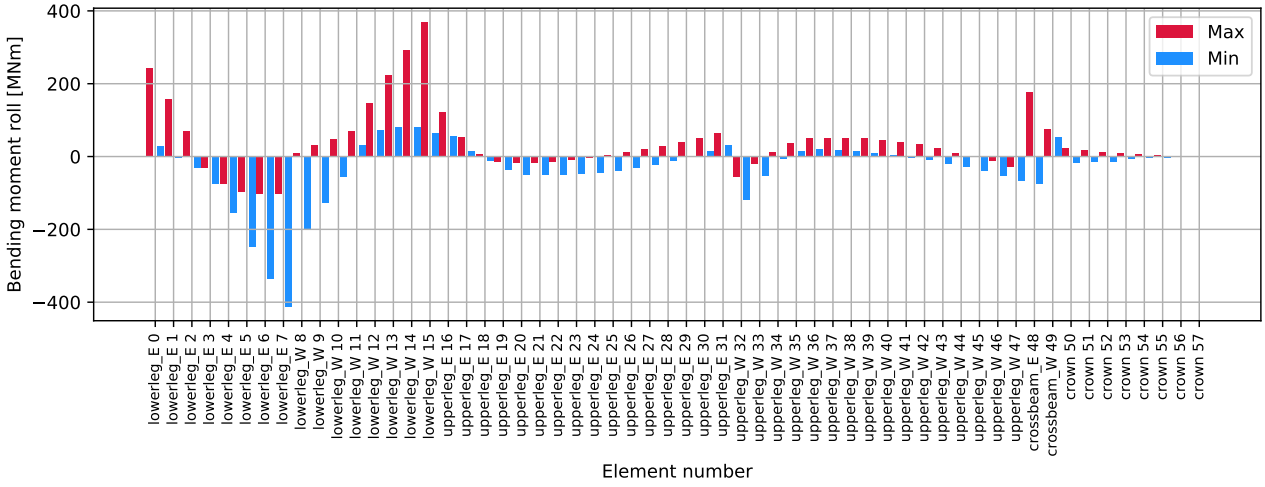

Figure 3.1408: P A10 180deg - tower: Bending moment roll [MNm]

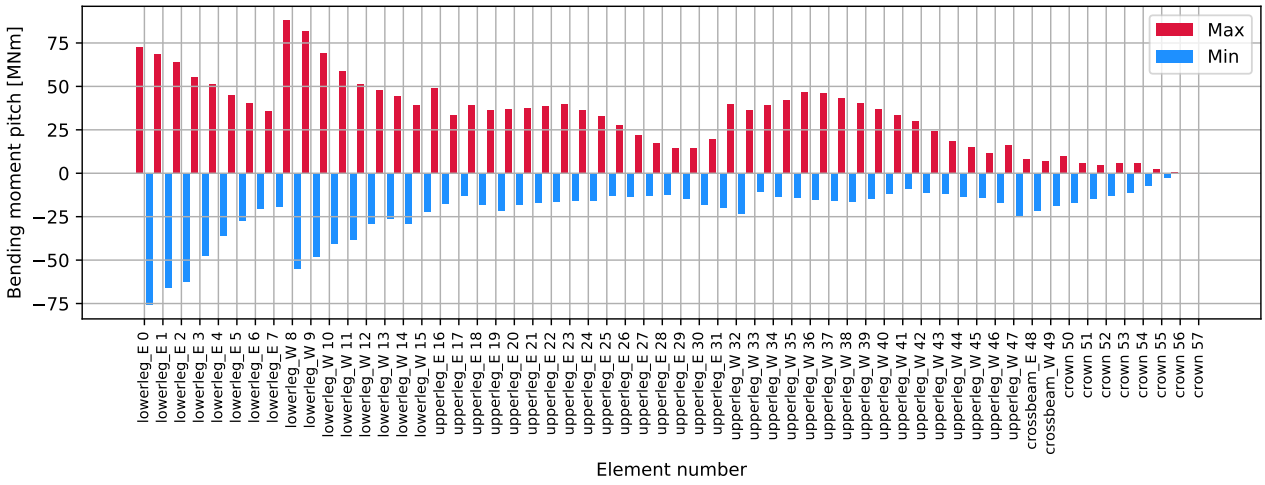

Figure 3.1409: P A10 180deg - tower: Bending moment pitch [MNm]

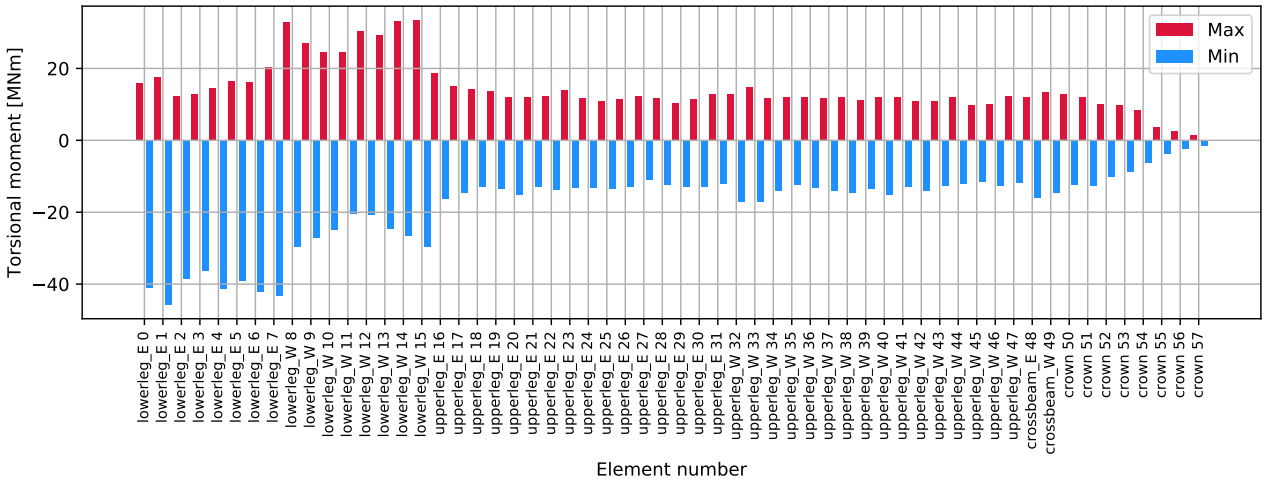

Figure 3.1410: P A10 180deg - tower: Torsional moment [MNm]

3.31.3 Time series

Note : Time series are filtered using a Saviotzky-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

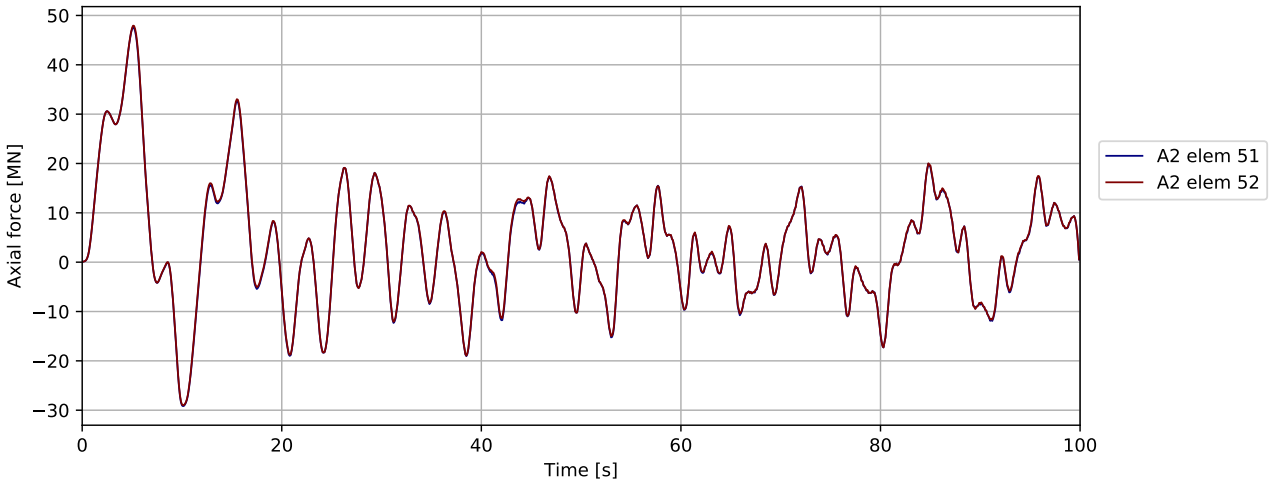

Figure 3.1411: P A10 180deg - bridgegirder @ pylon: Axial force [MN]

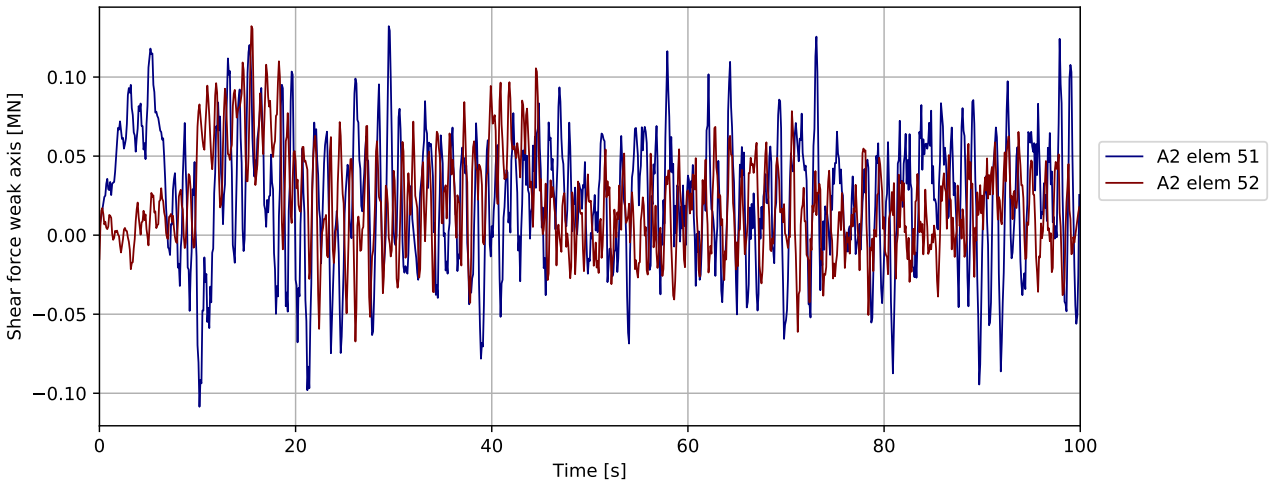

Figure 3.1412: P A10 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

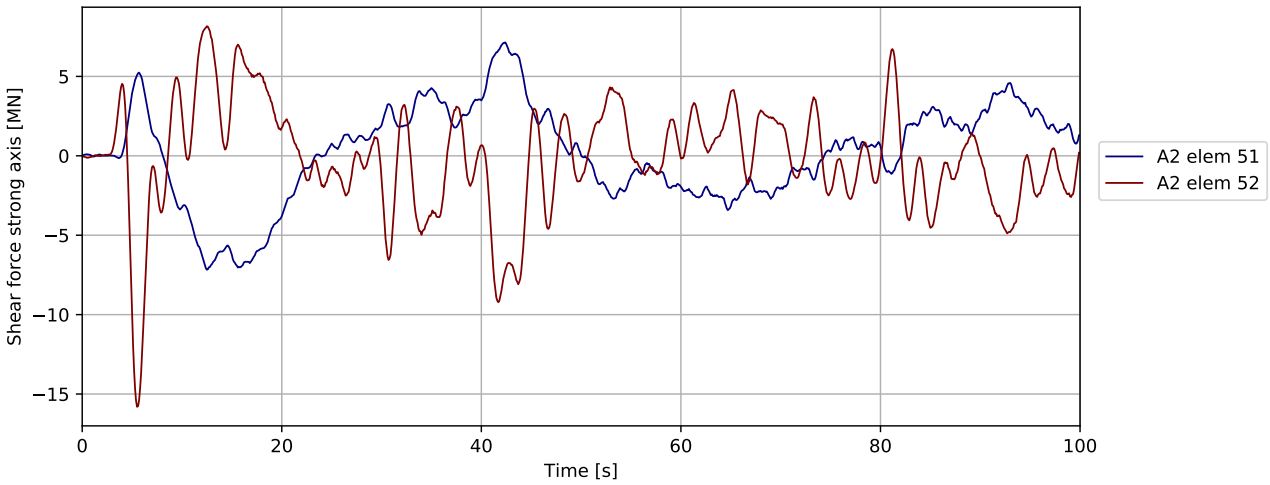

Figure 3.1413: P A10 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

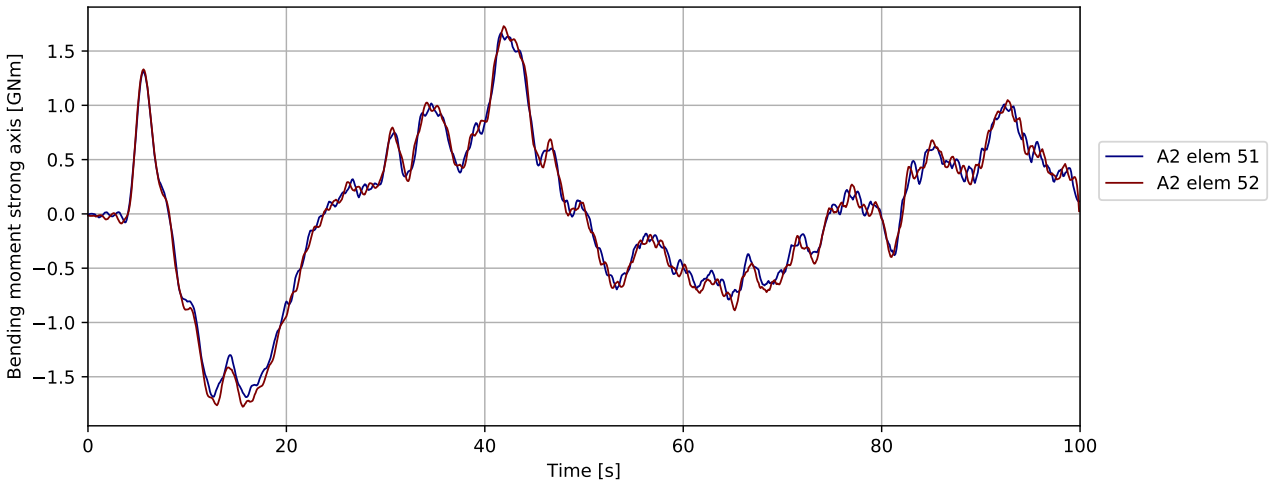

Figure 3.1414: P A10 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

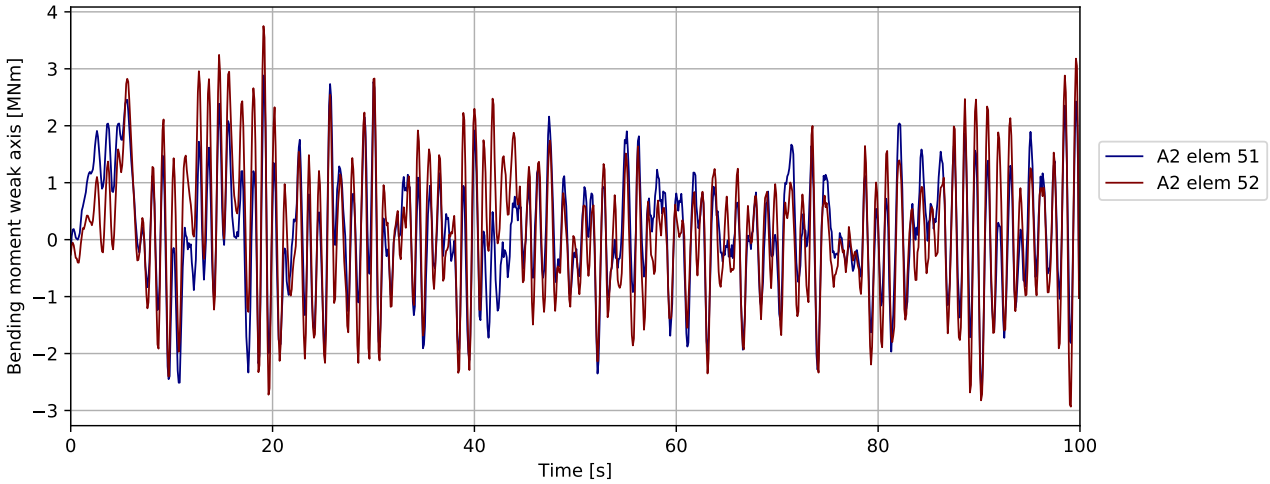

Figure 3.1415: P A10 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

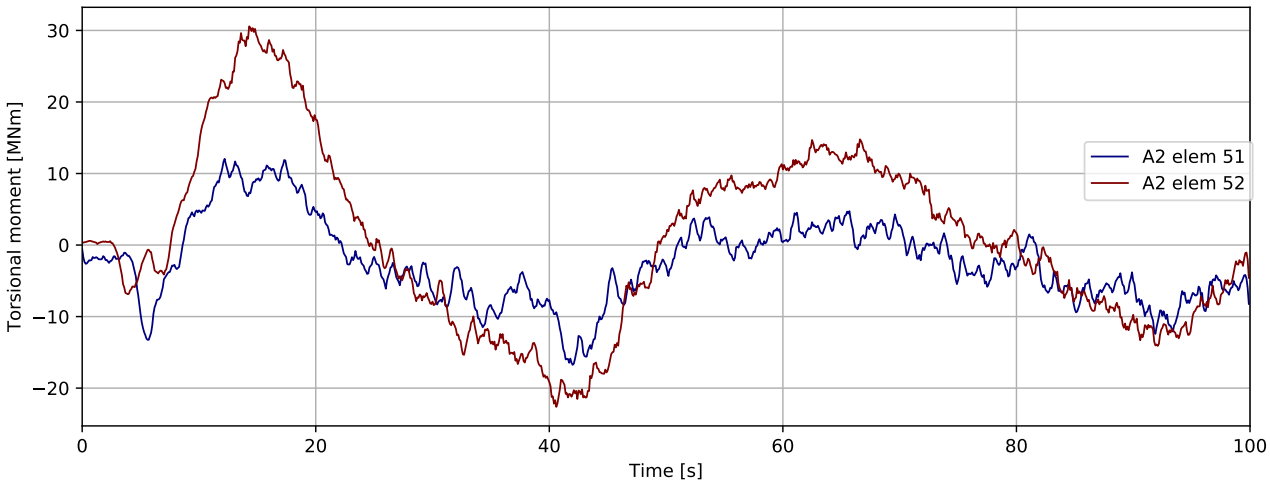

Figure 3.1416: P A10 180deg - bridgegirder @ pylon: Torsional moment [MNm]

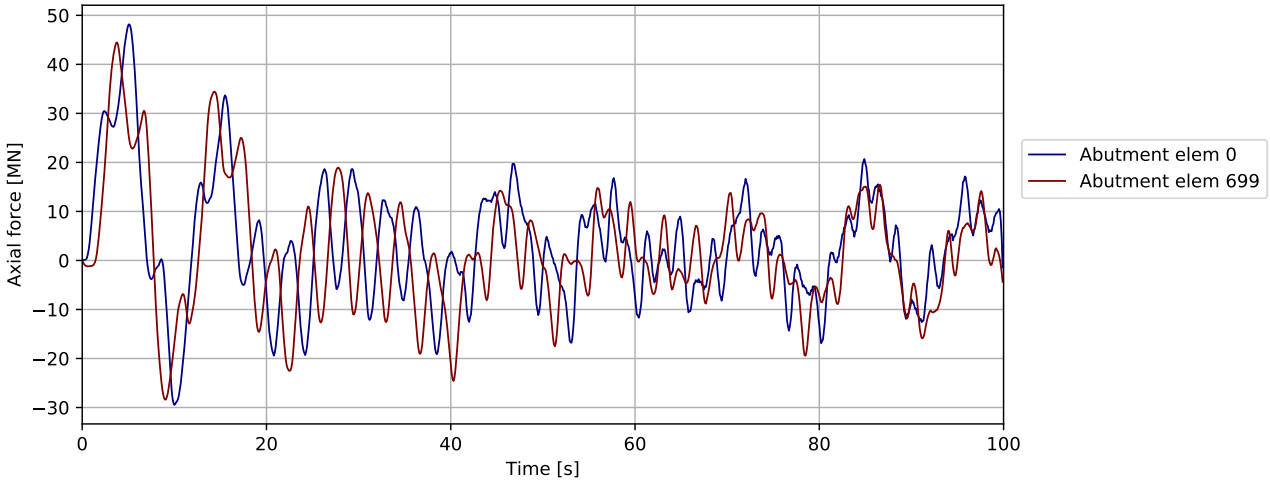

Figure 3.1417: P A10 180deg - bridgegirder @abutments: Axial force [MN]

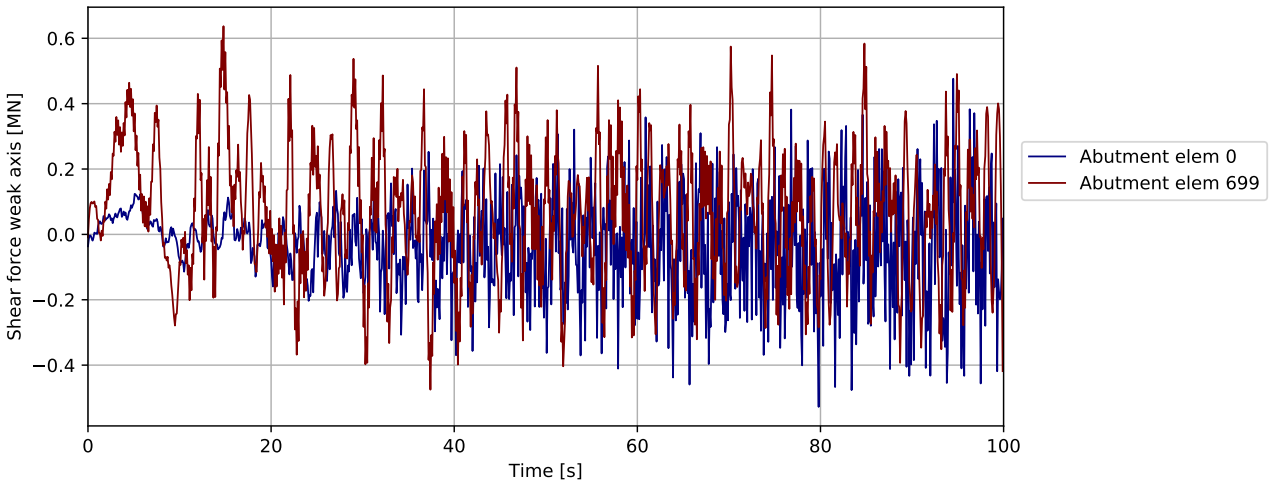

Figure 3.1418: P A10 180deg - bridgegirder @abutments: Shear force weak axis [MN]

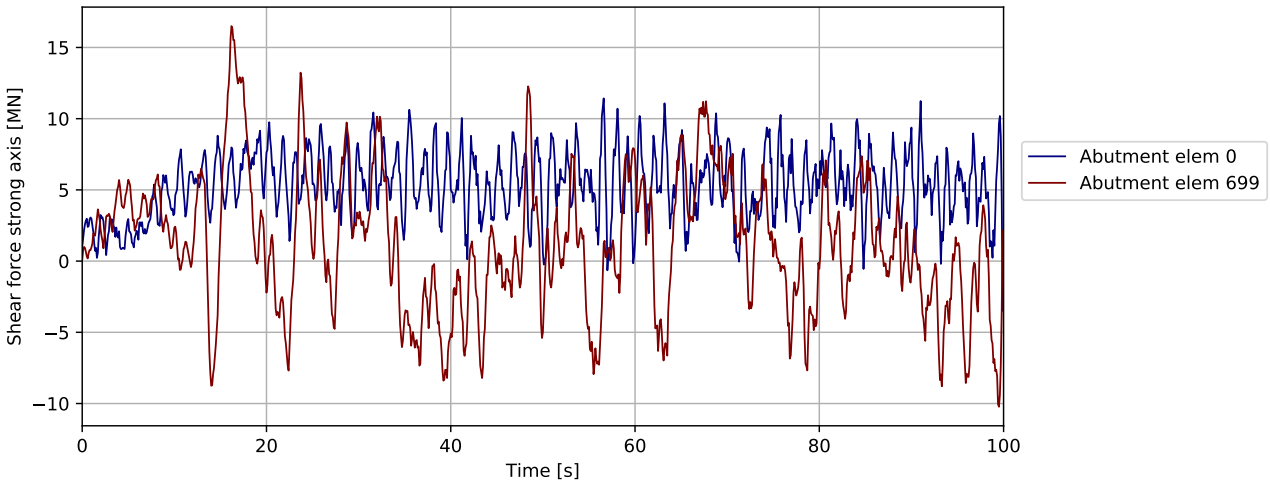

Figure 3.1419: P A10 180deg - bridgegirder @abutments: Shear force strong axis [MN]

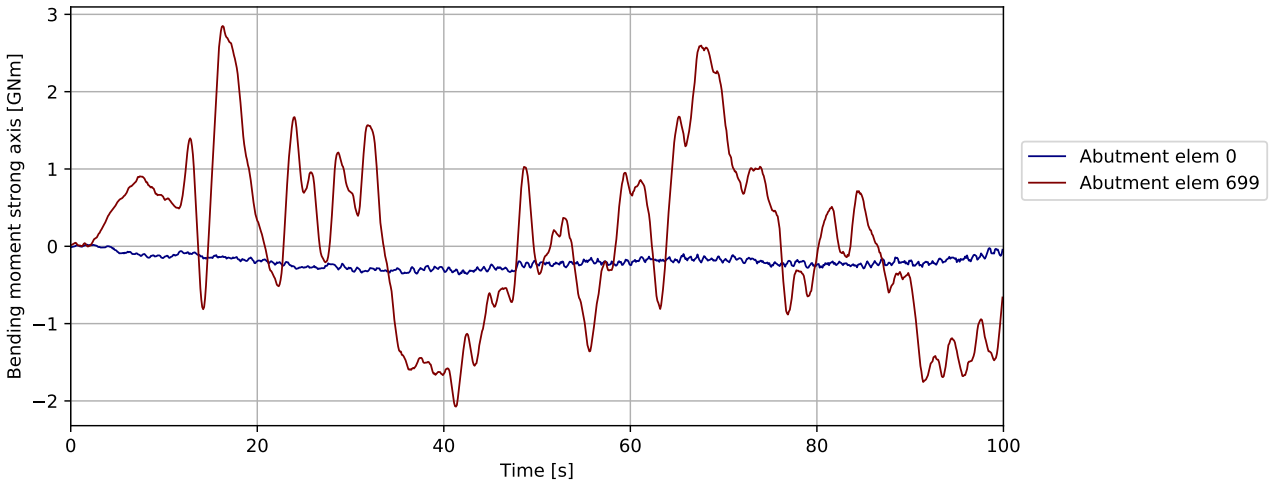

Figure 3.1420: P A10 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

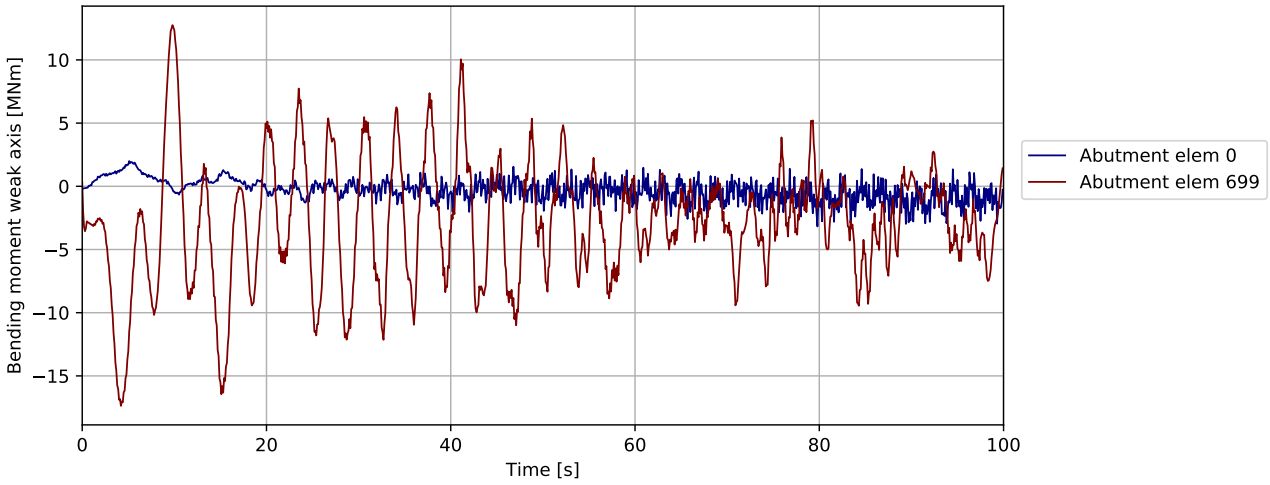

Figure 3.1421: P A10 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

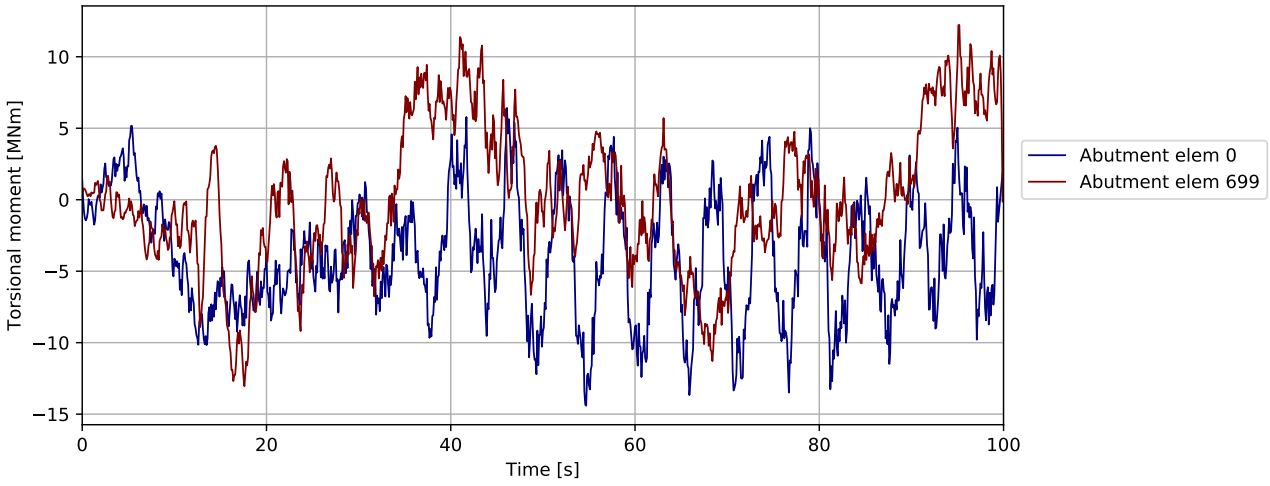

Figure 3.1422: P A10 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

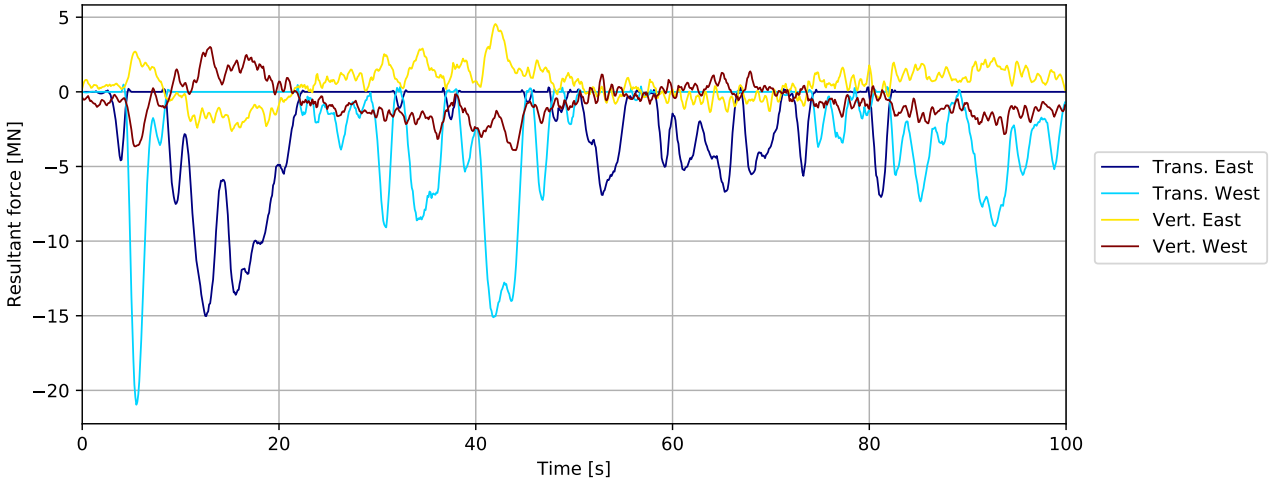

Figure 3.1423: P A10 180deg - bridgegirder supports in tower: Resultant force [MN]

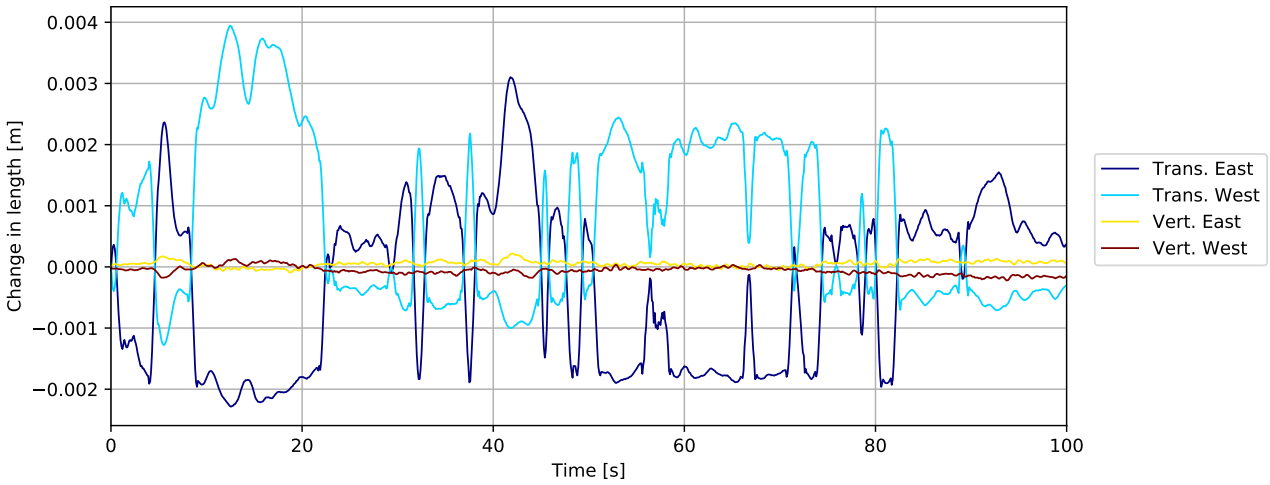

Figure 3.1424: P A10 180deg - bridgegirder supports in tower: Change in length [m]

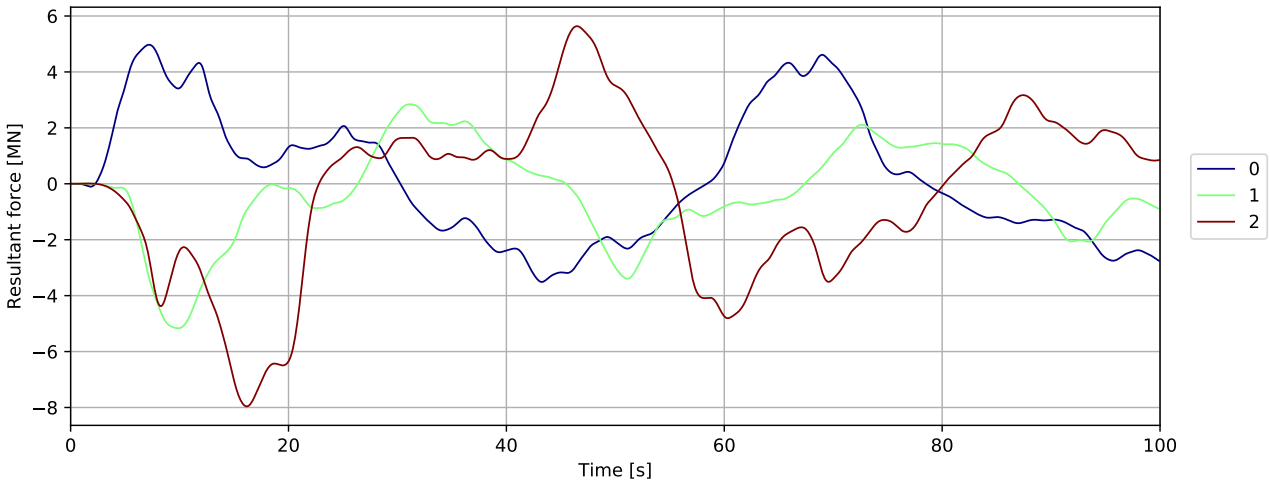

Figure 3.1425: Mooring force

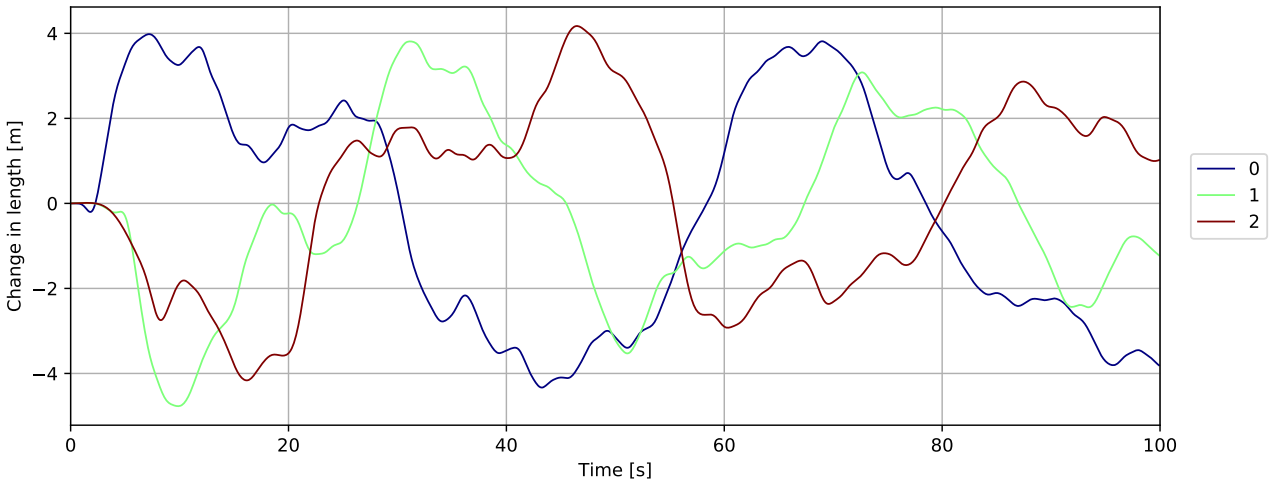

Figure 3.1426: Mooring displacement

3.32 PontoonA20 180deg

3.32.1 Overall response

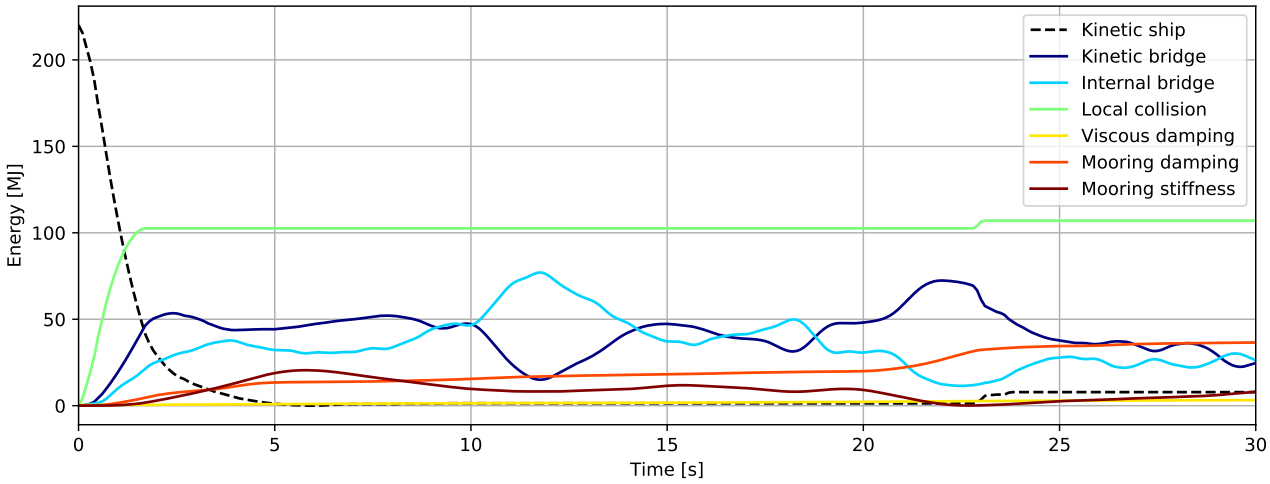

Figure 3.1427: Energy [MJ] - initial phase

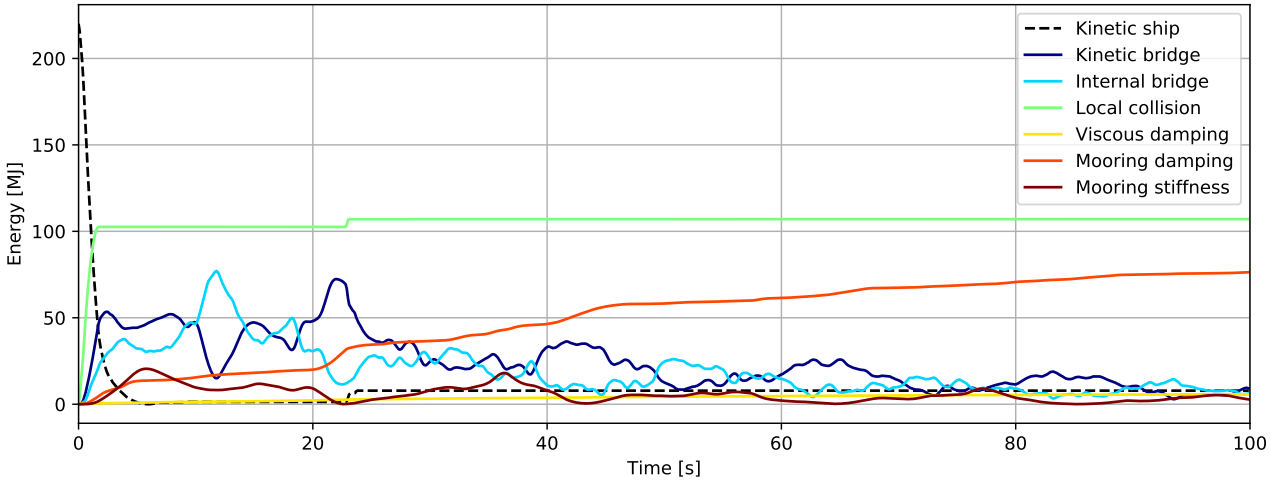

Figure 3.1428: Energy [MJ]

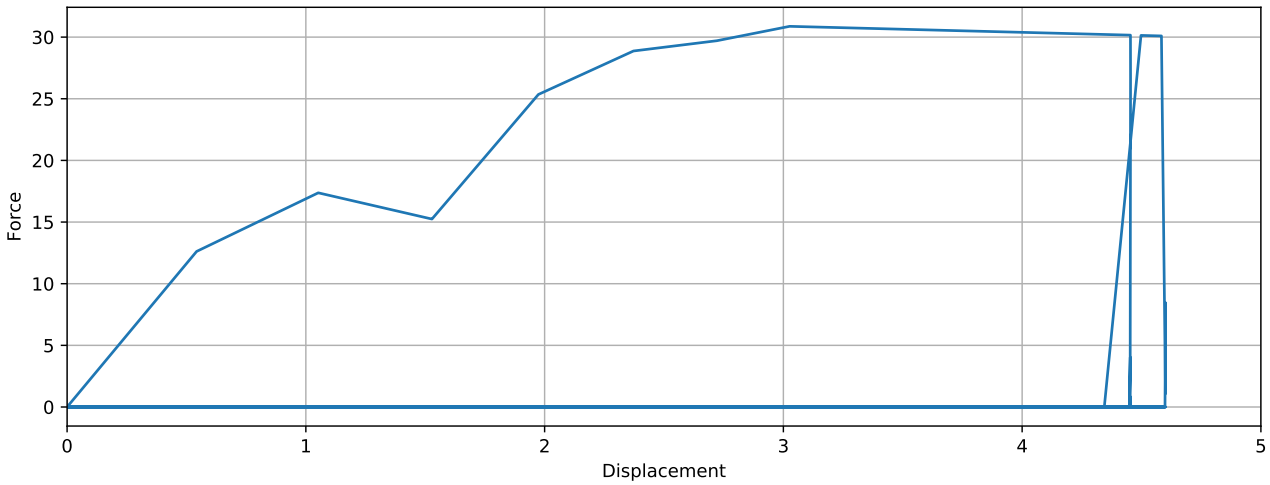

Figure 3.1429: Simulated local collision force-displacement

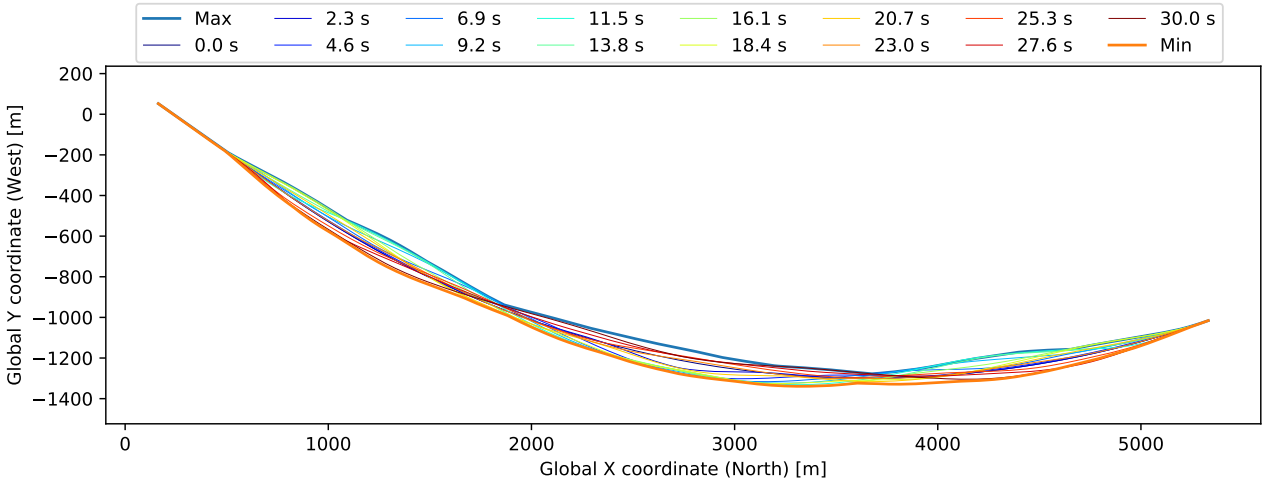

Figure 3.1430: Bridgegirder deflection (10x displacment scaling)

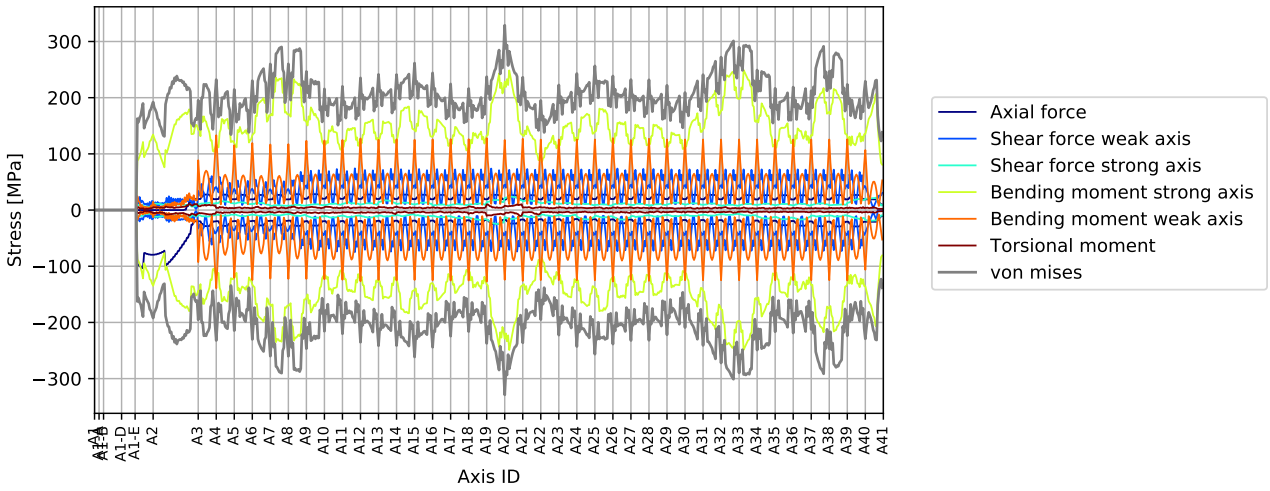

Figure 3.1431: Stress envelope from all force components

3.32.2 Envelope plots

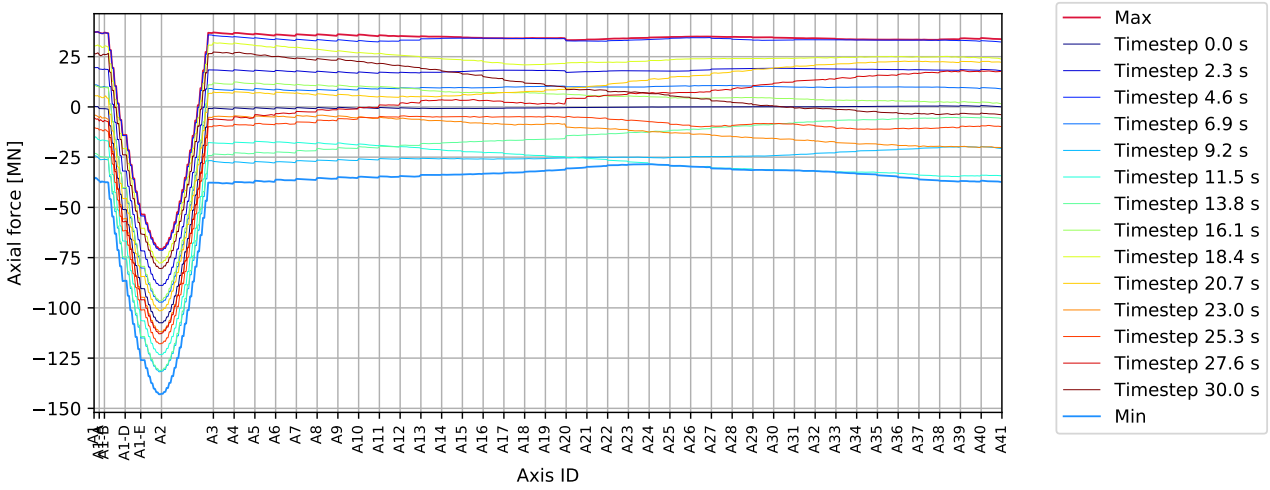

Figure 3.1432: P A20 180deg - bridgegirder : Axial force [MN]

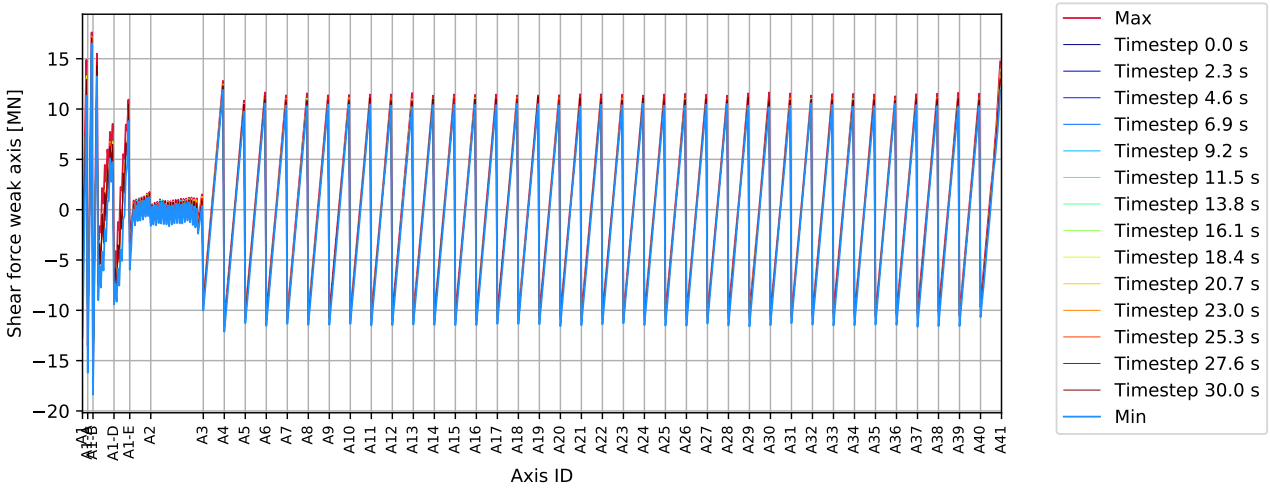

Figure 3.1433: P A20 180deg - bridgegirder : Shear force weak axis [MN]

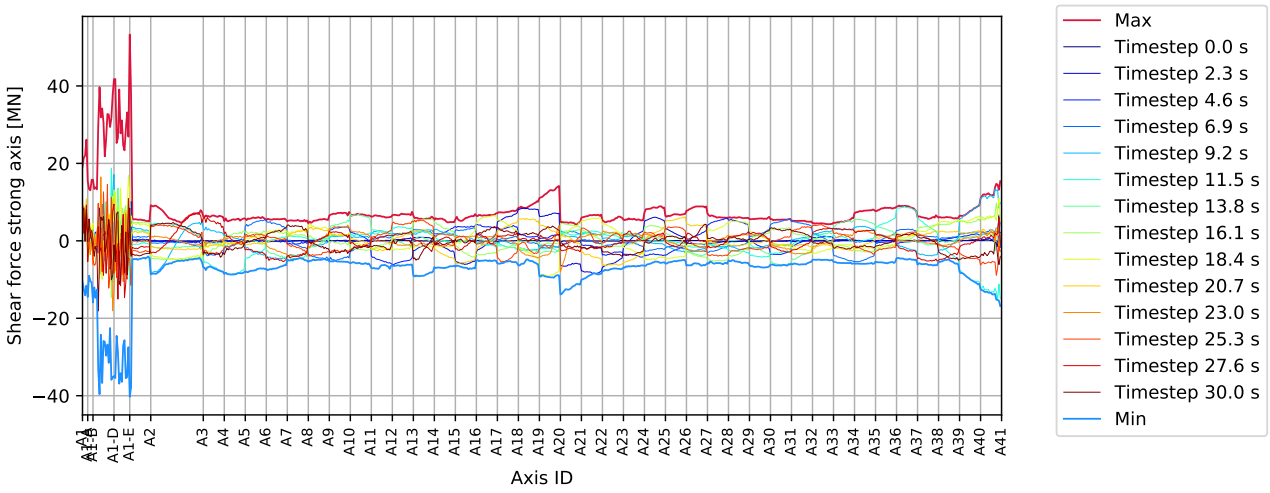

Figure 3.1434: P A20 180deg - bridgegirder : Shear force strong axis [MN]

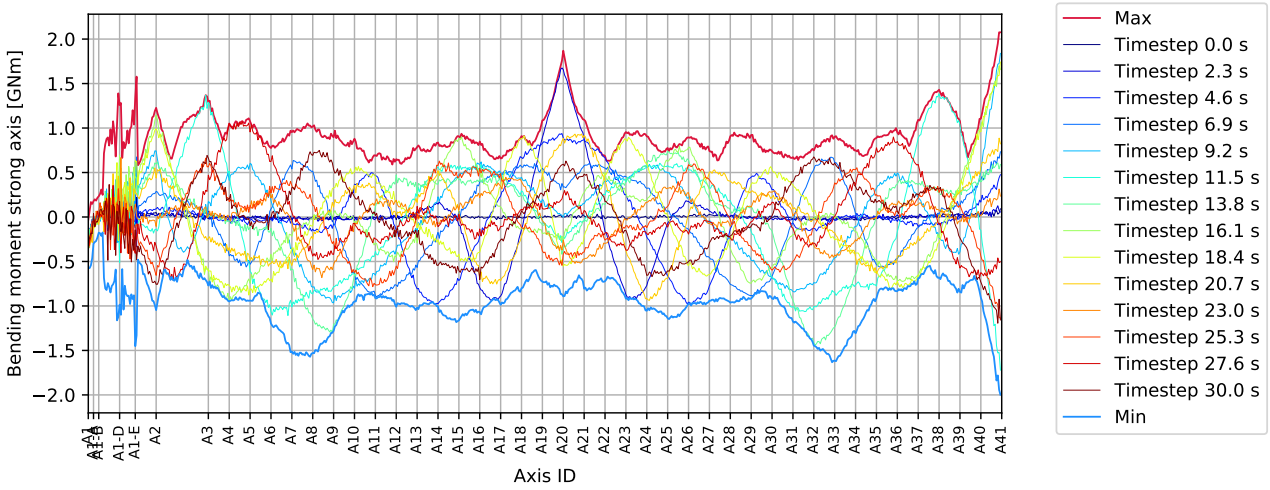

Figure 3.1435: P A20 180deg - bridgegirder : Bending moment strong axis [GNm]

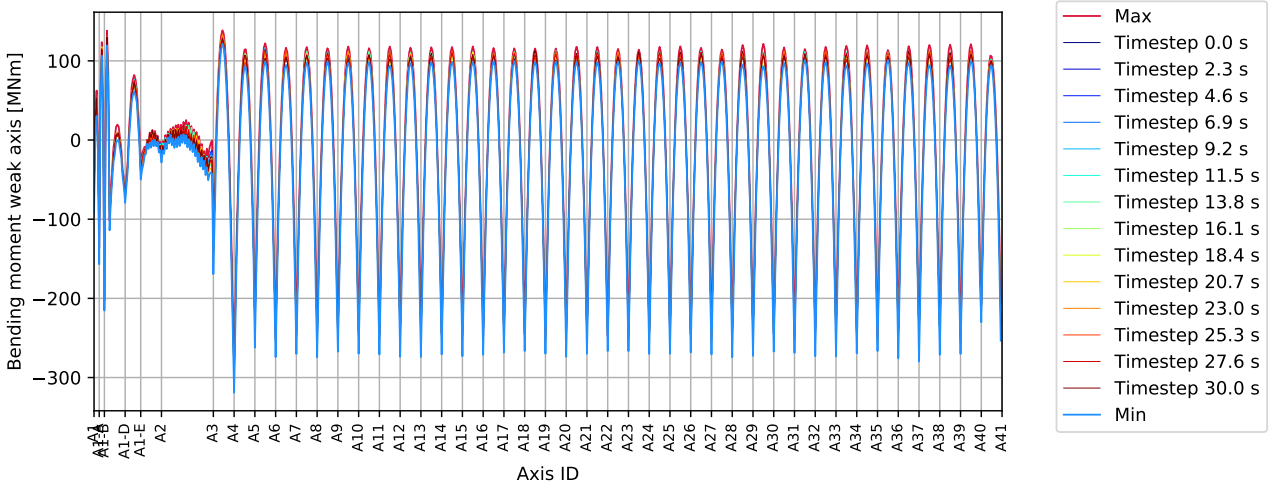

Figure 3.1436: P A20 180deg - bridgegirder : Bending moment weak axis [MNm]

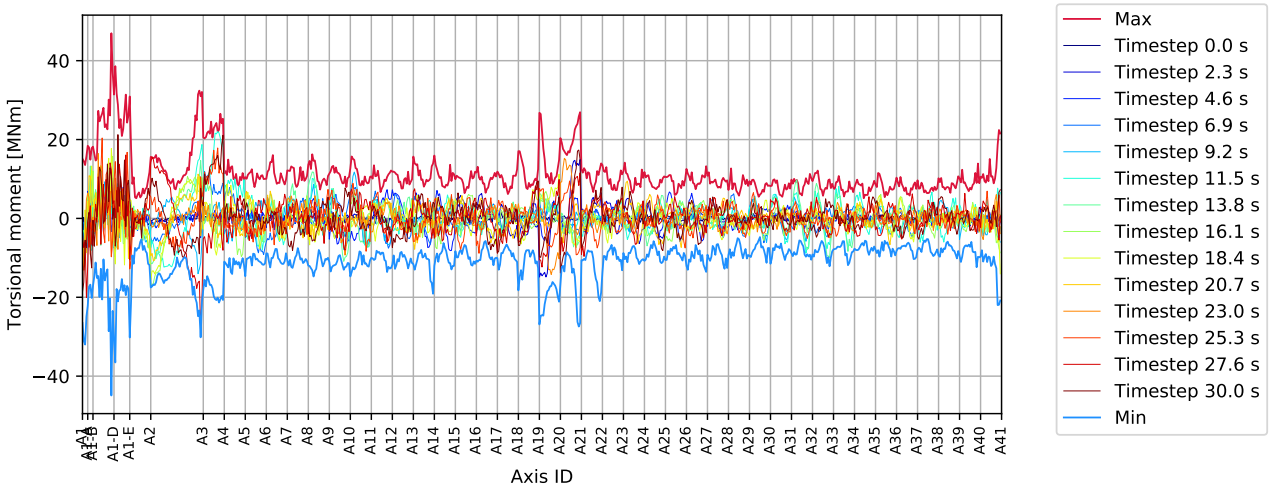

Figure 3.1437: P A20 180deg - bridgegirder : Torsional moment [MNm]

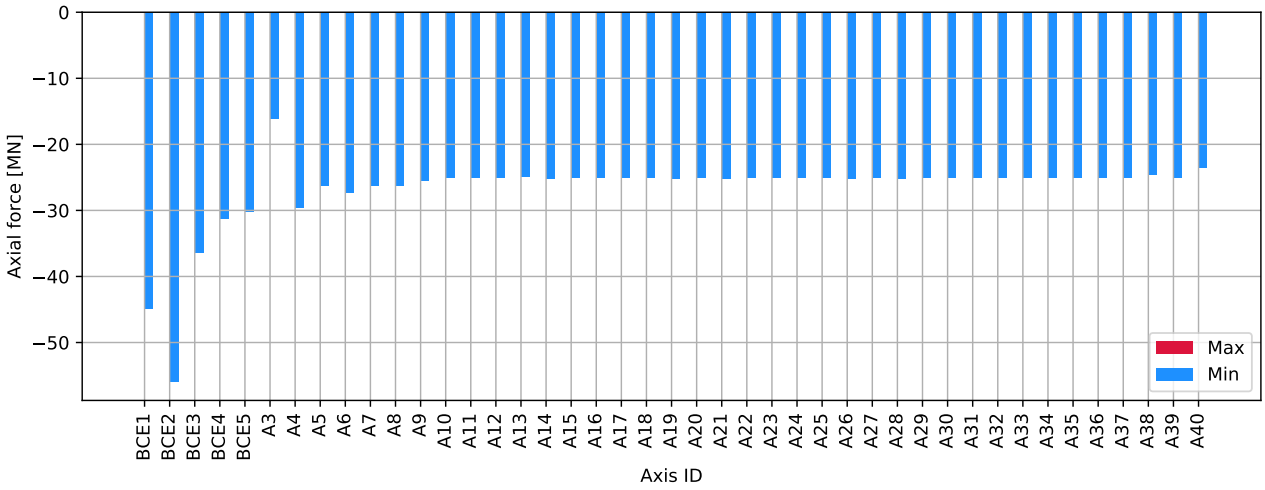

Figure 3.1438: P A20 180deg - columns bottom : Axial force [MN]

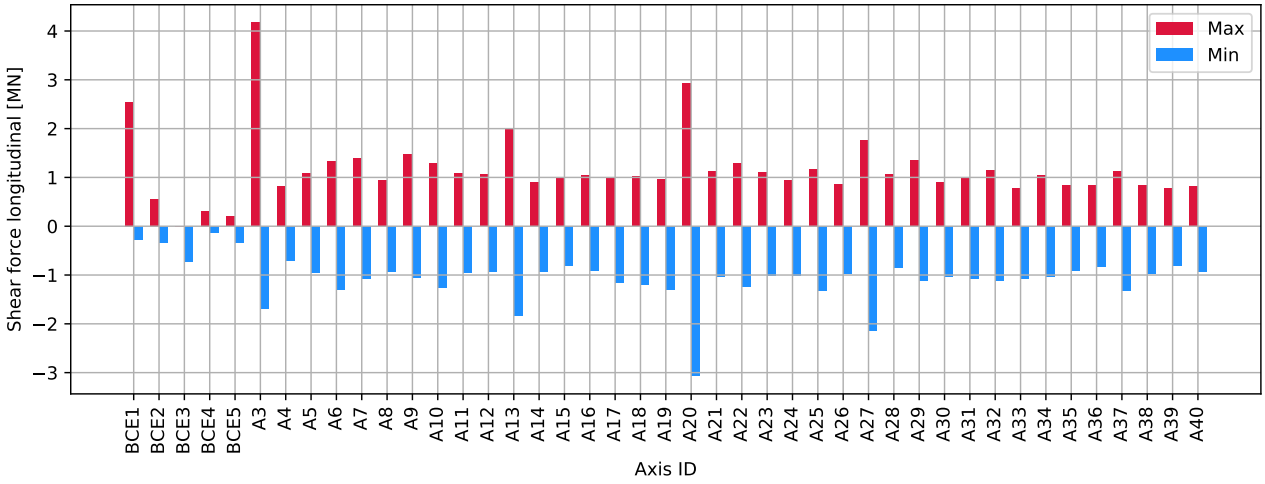

Figure 3.1439: P A20 180deg - columns bottom : Shear force longitudinal [MN]

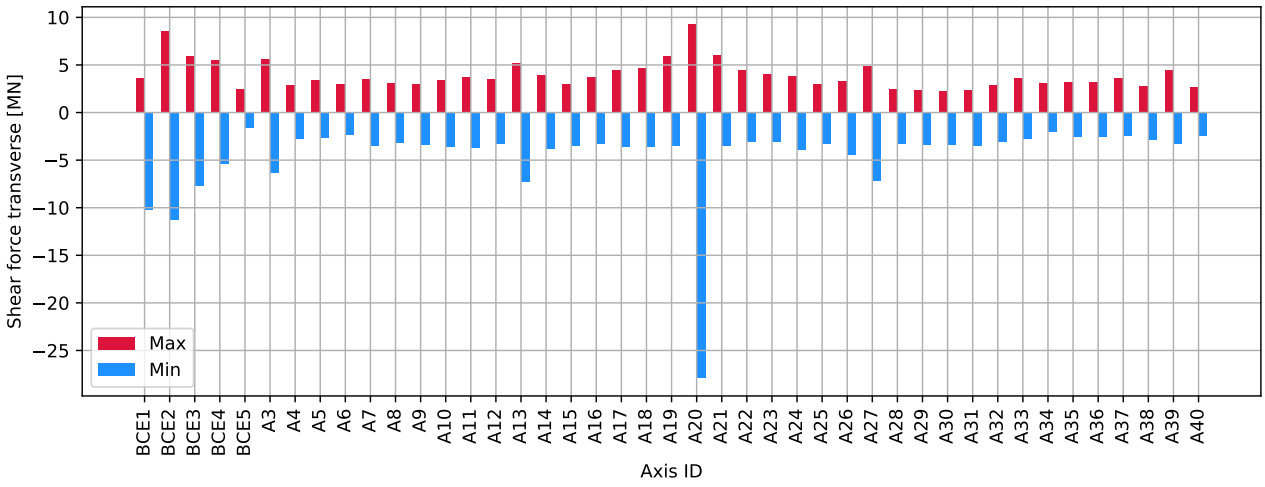

Figure 3.1440: P A20 180deg - columns bottom : Shear force transverse [MN]

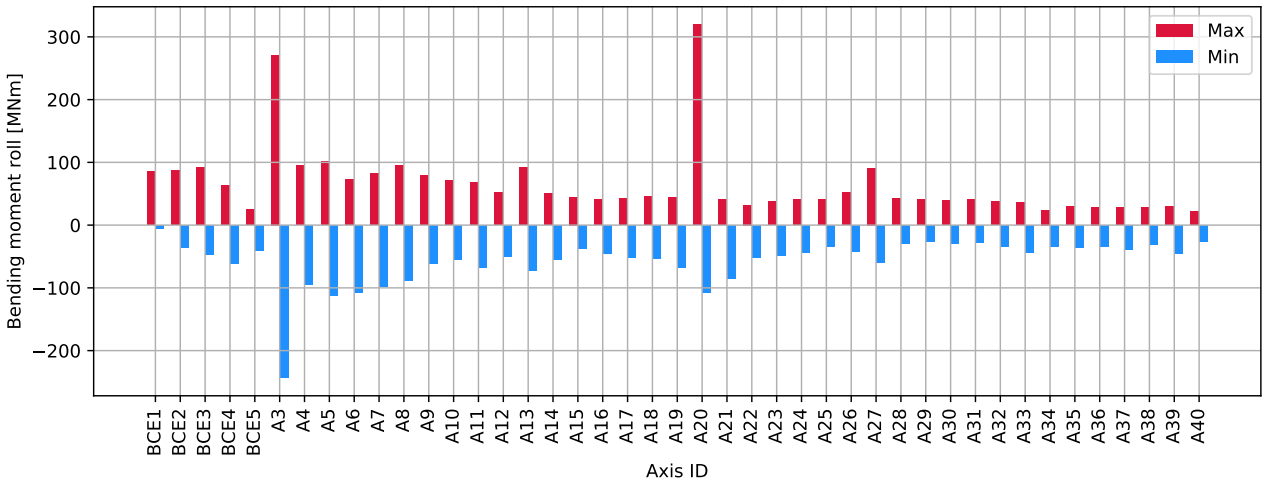

Figure 3.1441: P A20 180deg - columns bottom : Bending moment roll [MNm]

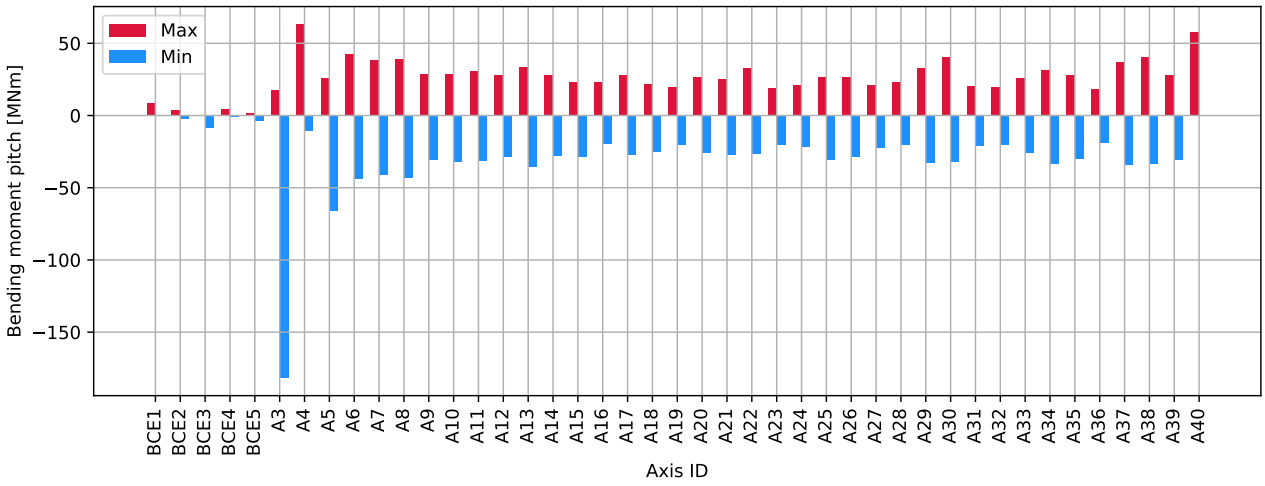

Figure 3.1442: P A20 180deg - columns bottom : Bending moment pitch [MNm]

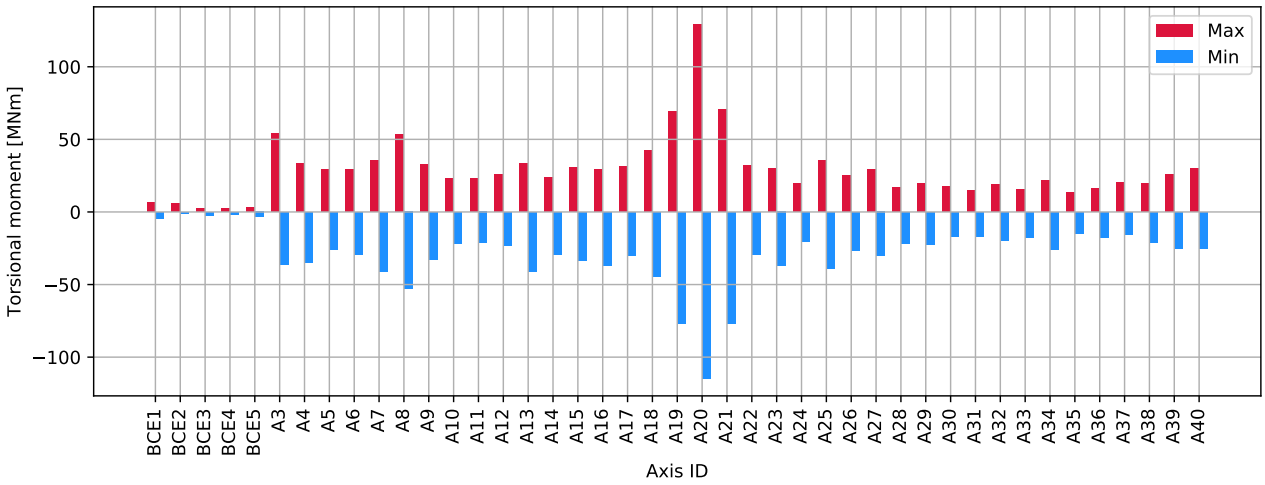

Figure 3.1443: P A20 180deg - columns bottom : Torsional moment [MNm]

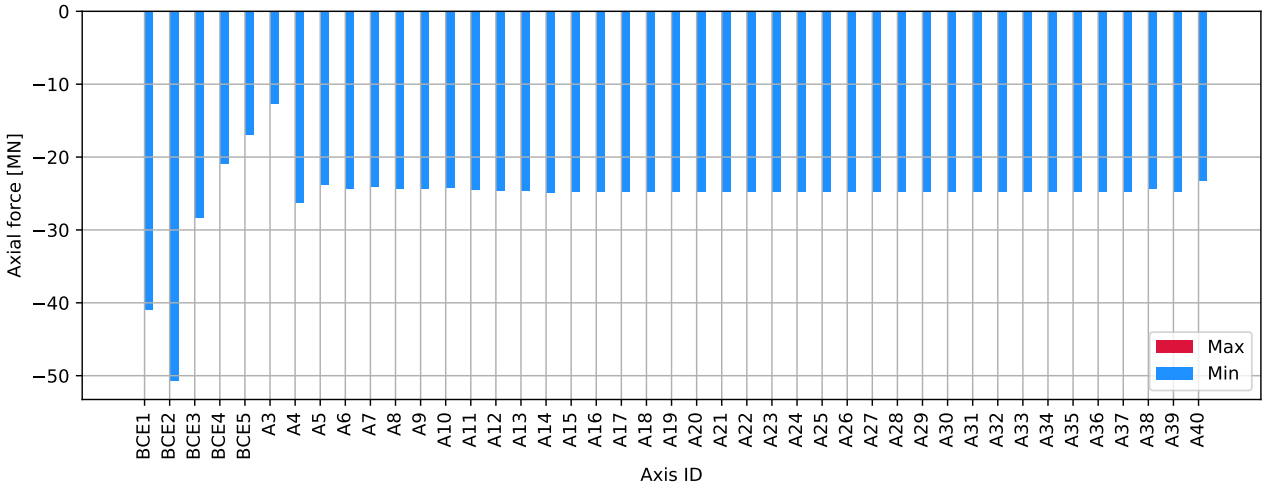

Figure 3.1444: P A20 180deg - columns top : Axial force [MN]

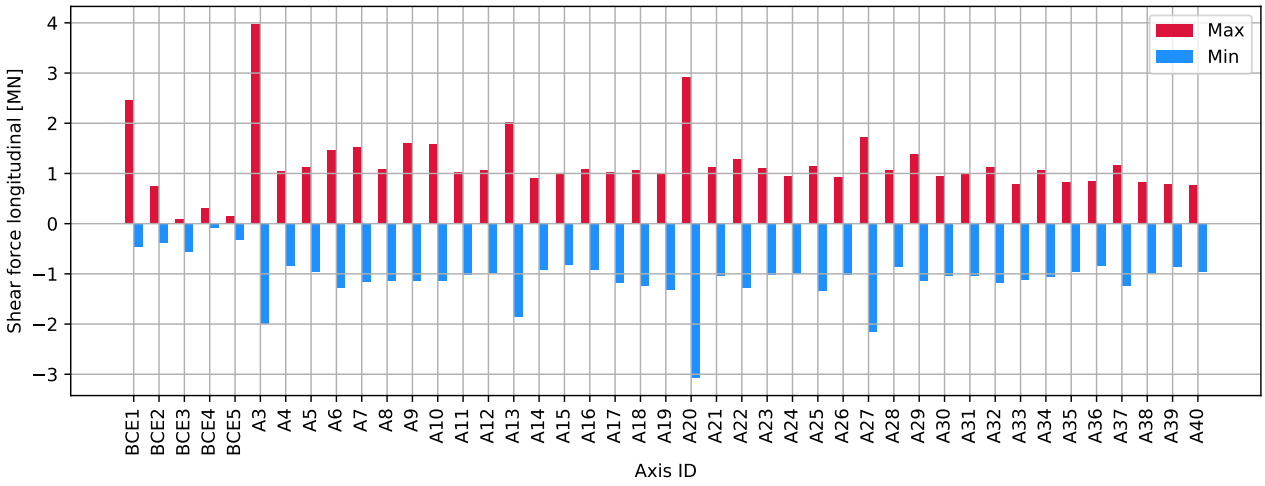

Figure 3.1445: P A20 180deg - columns top : Shear force longitudinal [MN]

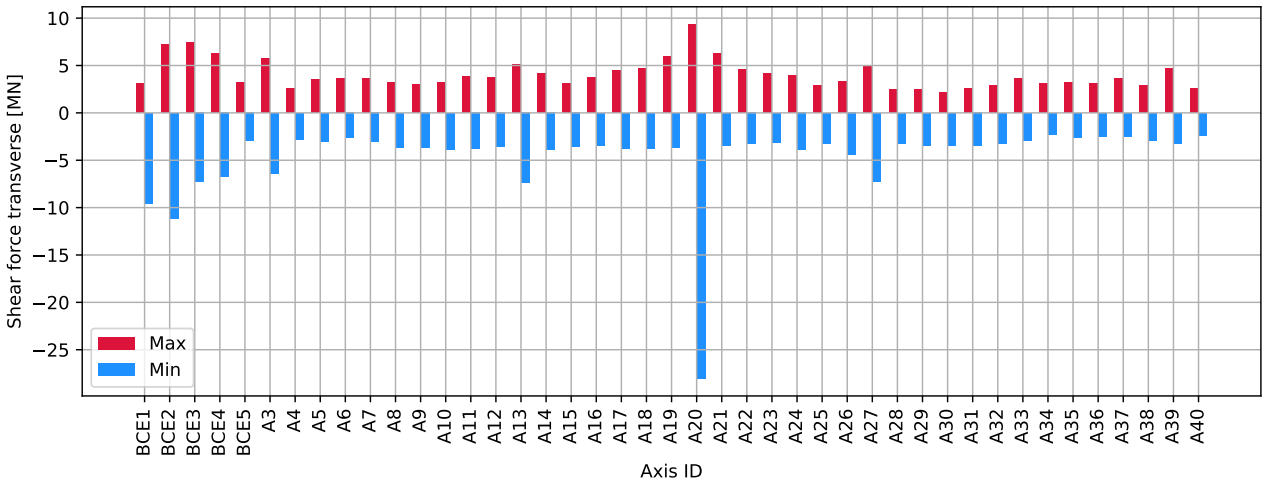

Figure 3.1446: P A20 180deg - columns top : Shear force transverse [MN]

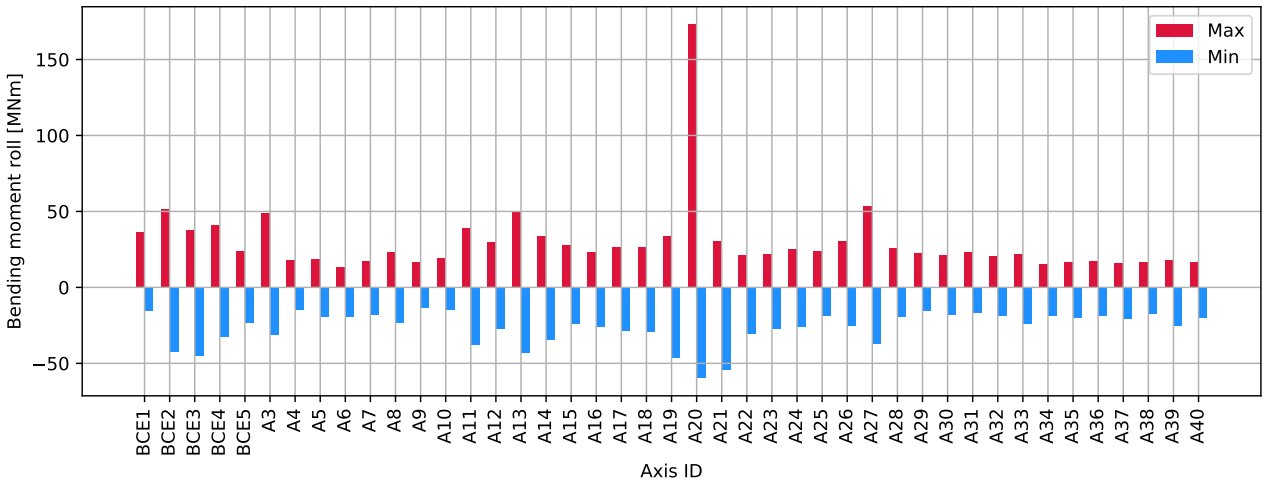

Figure 3.1447: P A20 180deg - columns top : Bending moment roll [MNm]

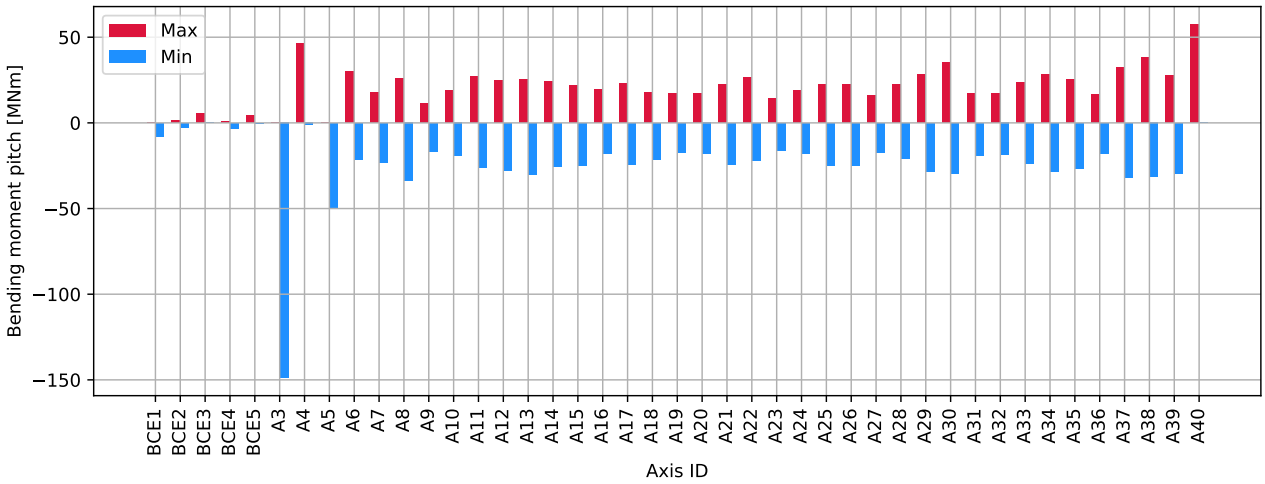

Figure 3.1448: P A20 180deg - columns top : Bending moment pitch [MNm]

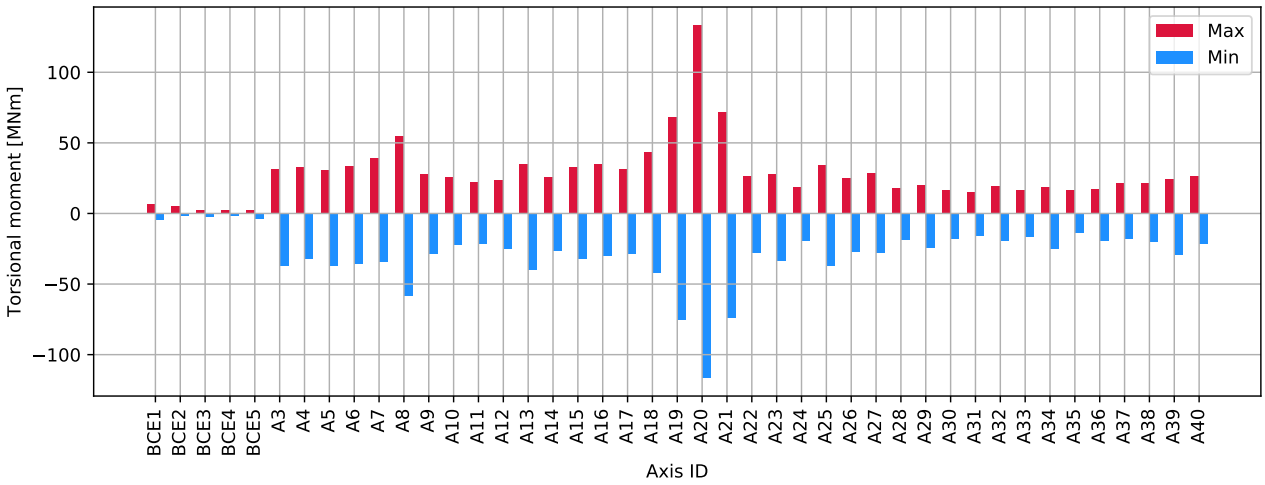

Figure 3.1449: P A20 180deg - columns top : Torsional moment [MNm]

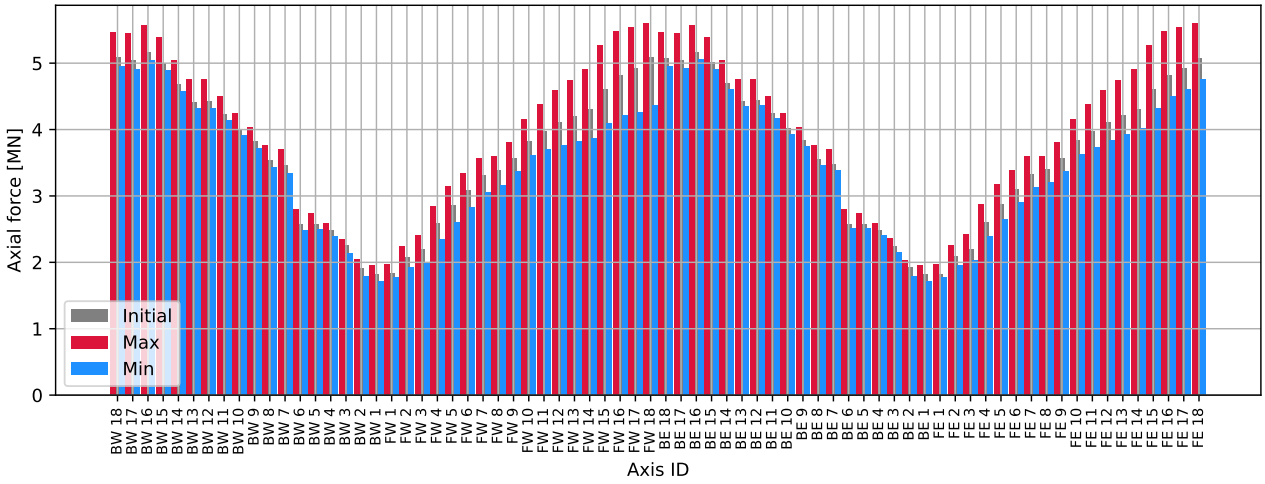

Figure 3.1450: P A20 180deg - cables : Axial force [MN]

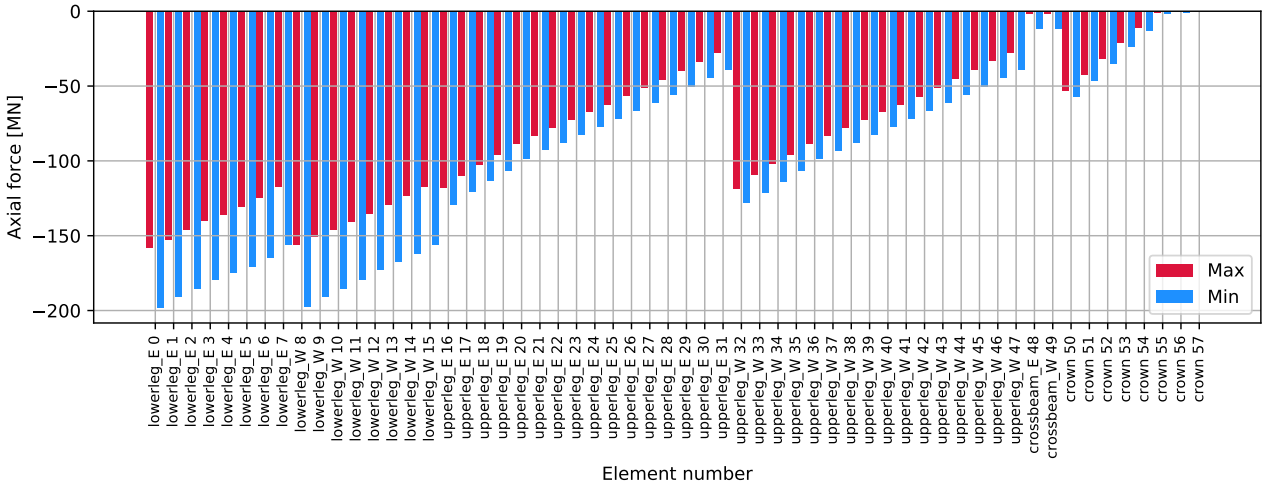

Figure 3.1451: P A20 180deg - tower: Axial force [MN]

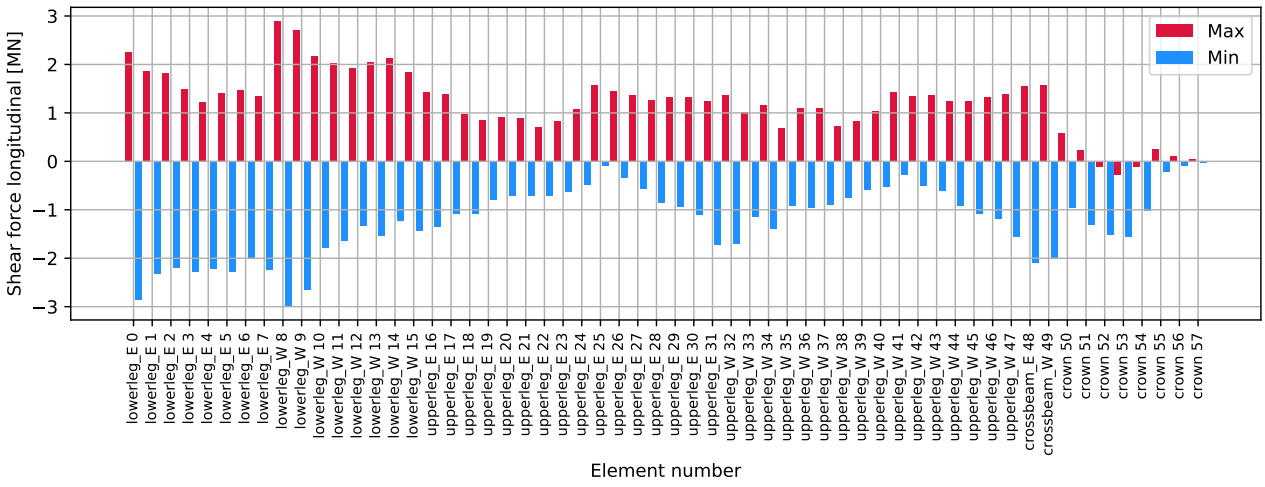

Figure 3.1452: P A20 180deg - tower: Shear force longitudinal [MN]

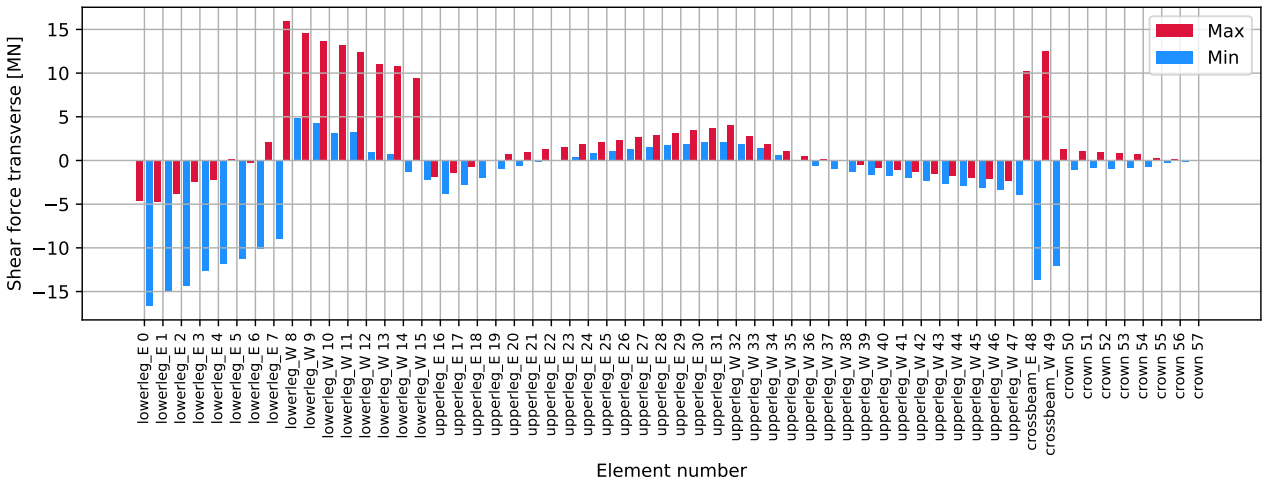

Figure 3.1453: P A20 180deg - tower: Shear force transverse [MN]

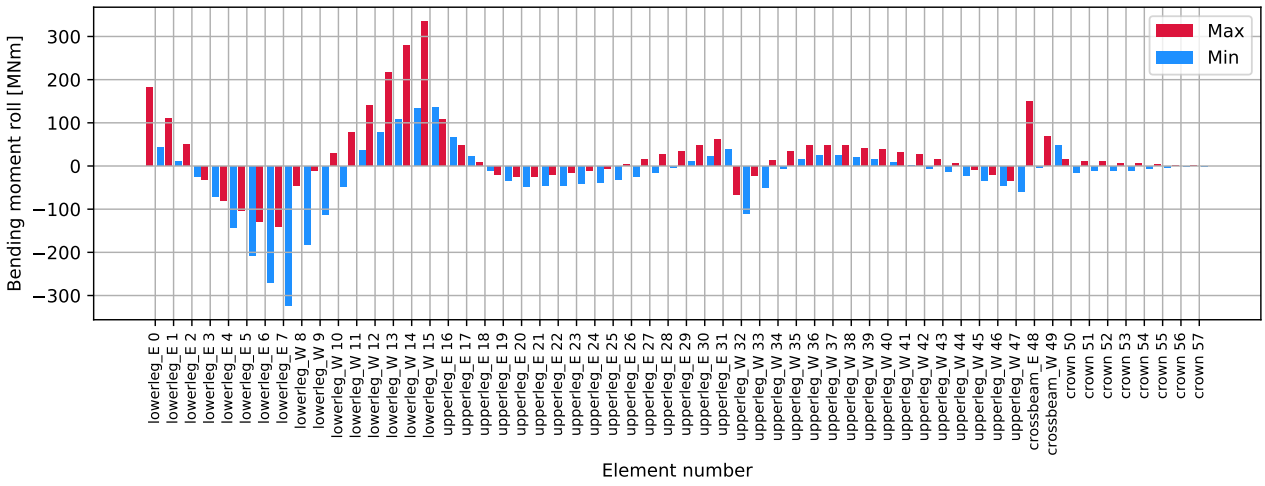

Figure 3.1454: P A20 180deg - tower: Bending moment roll [MNm]

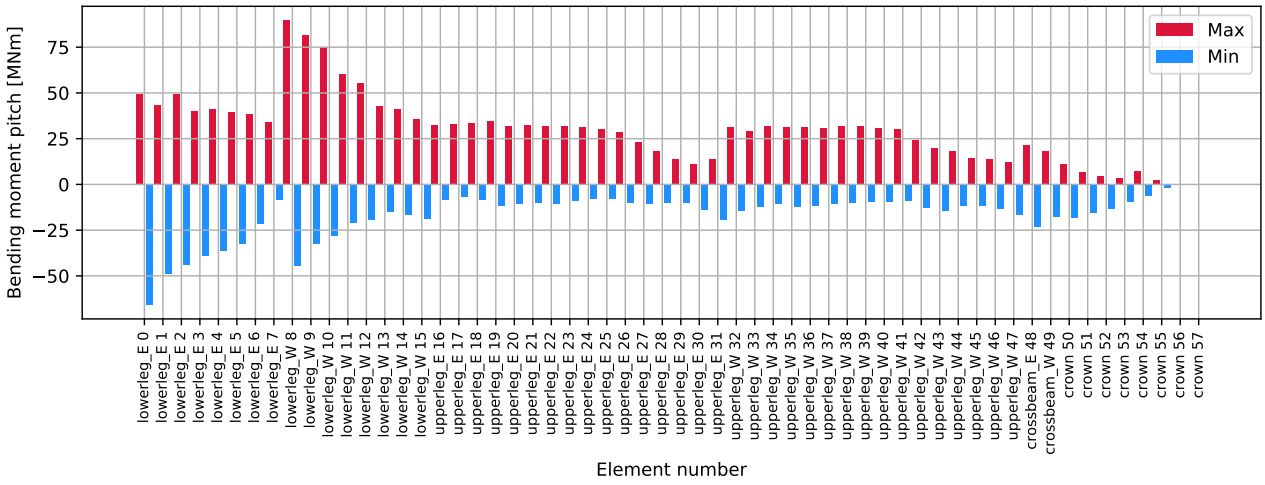

Figure 3.1455: P A20 180deg - tower: Bending moment pitch [MNm]

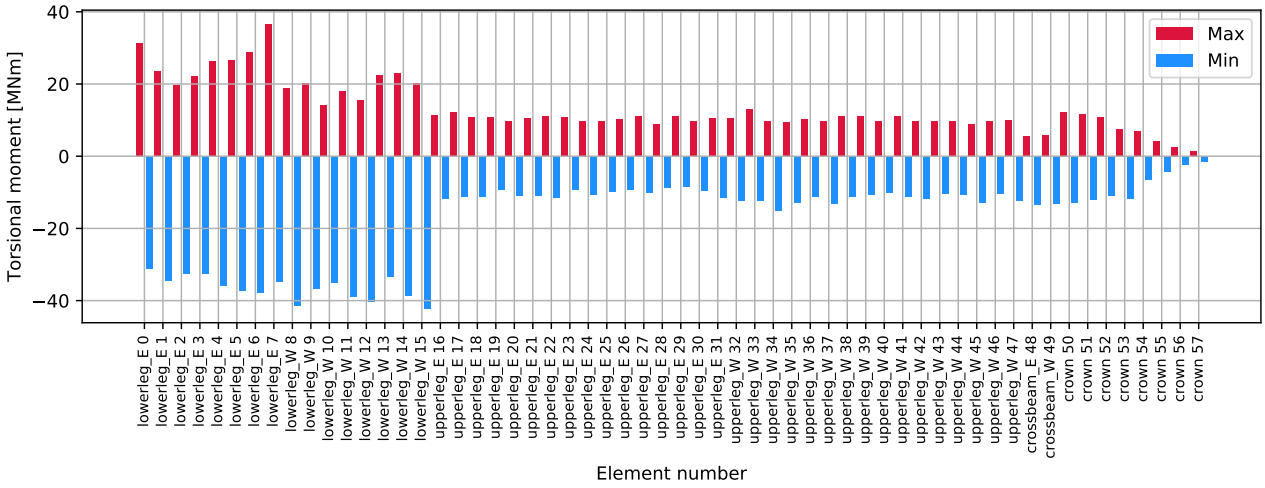

Figure 3.1456: P A20 180deg - tower: Torsional moment [MNm]

3.32.3 Time series

Note : Time series are filtered using a Saviotzky-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

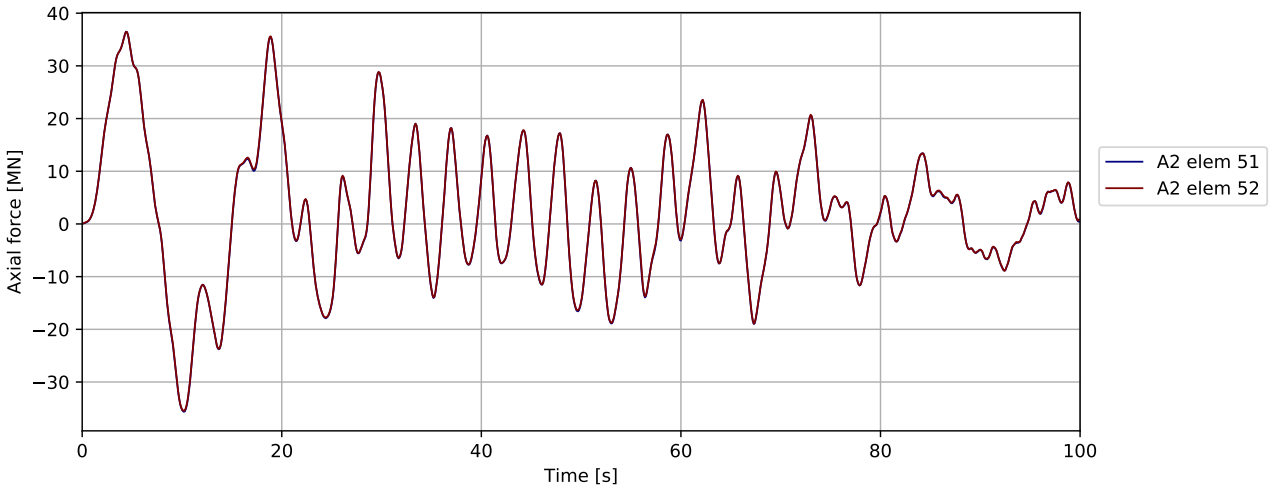

Figure 3.1457: P A20 180deg - bridgegirder @ pylon: Axial force [MN]

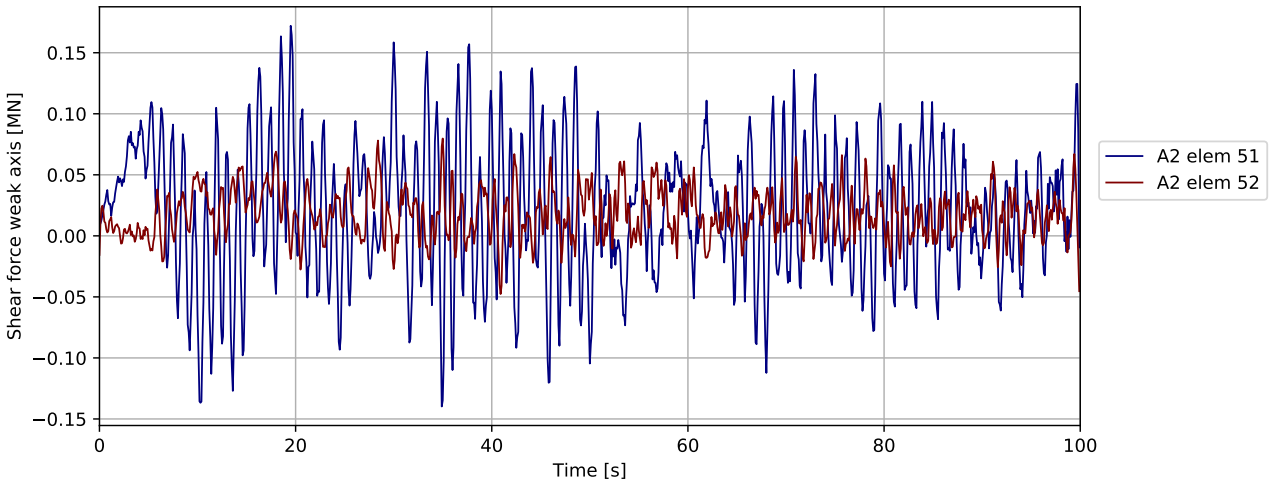

Figure 3.1458: P A20 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

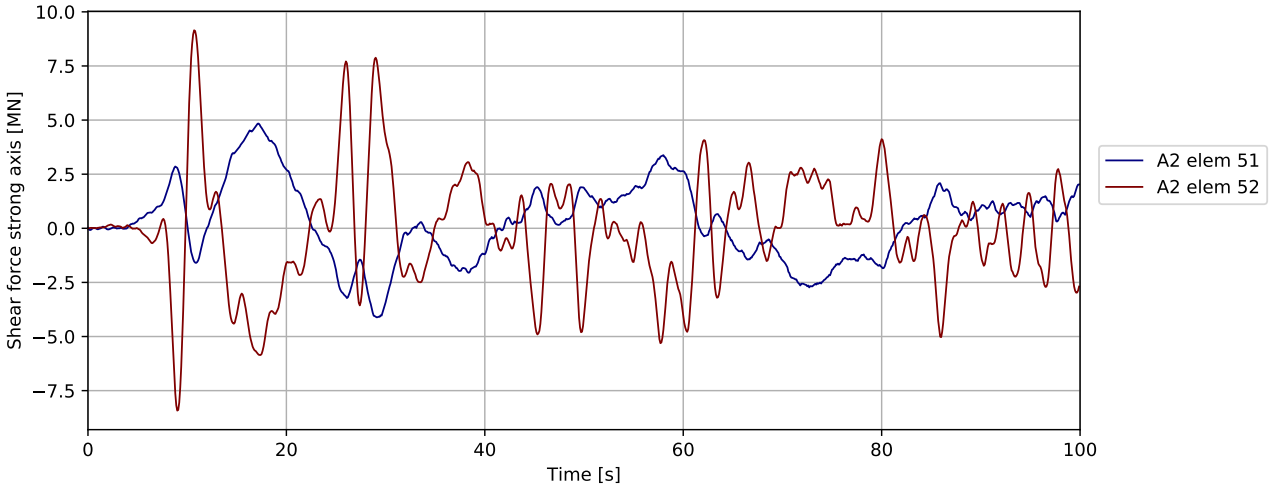

Figure 3.1459: P A20 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

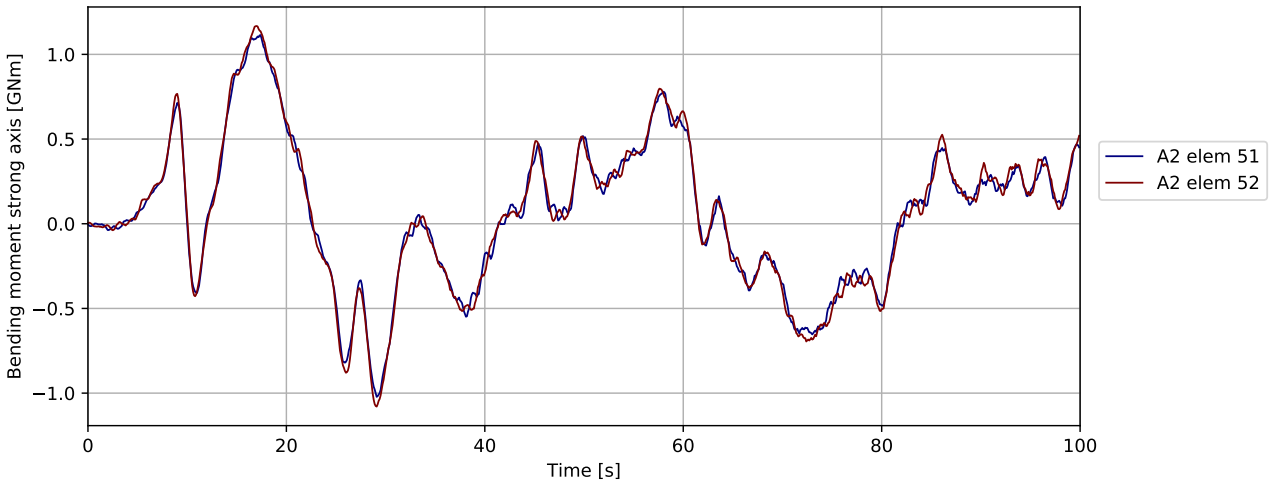

Figure 3.1460: P A20 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

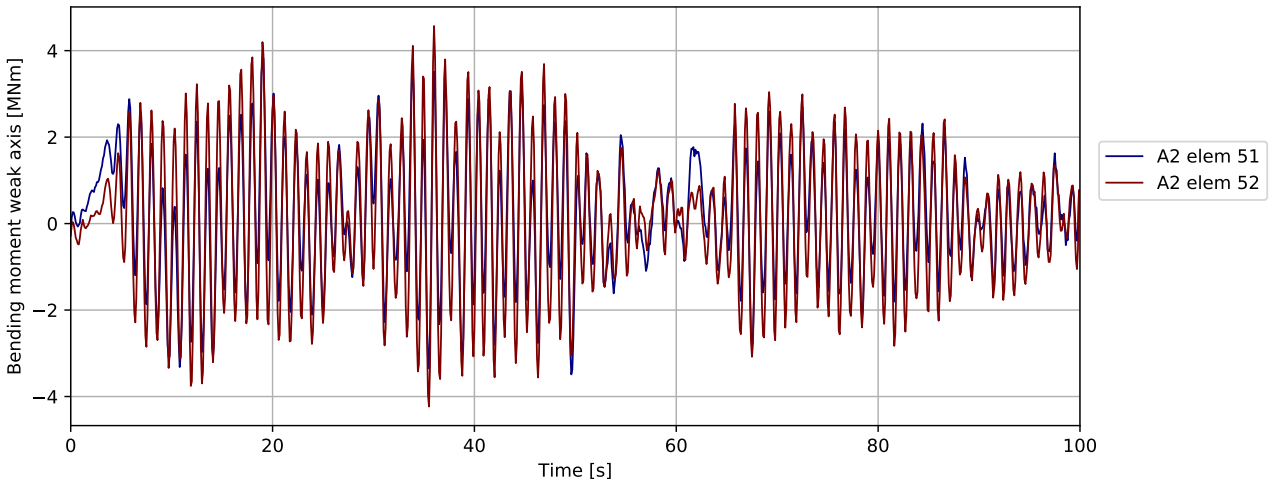

Figure 3.1461: P A20 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

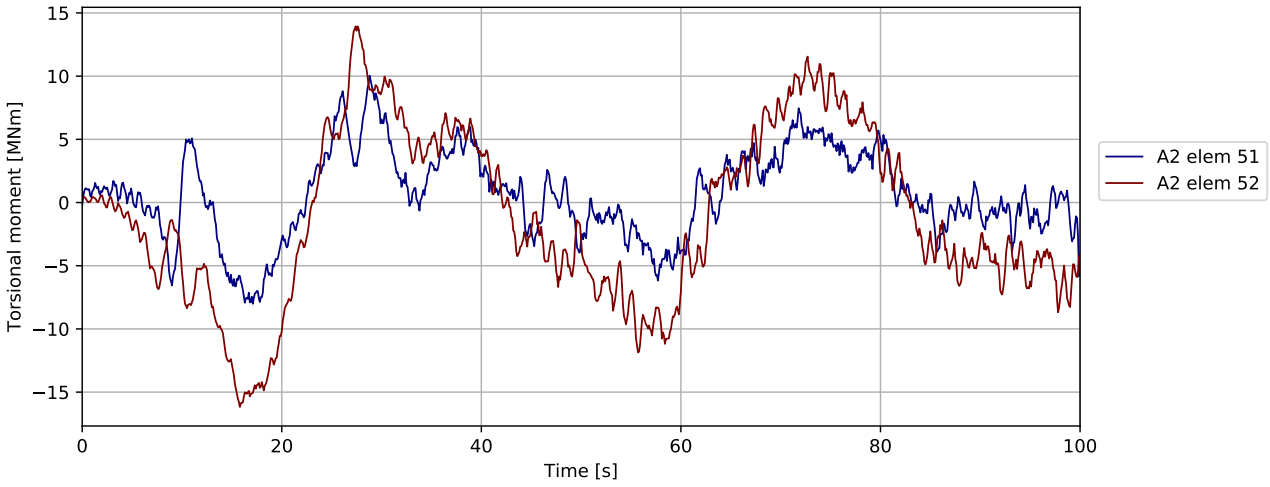

Figure 3.1462: P A20 180deg - bridgegirder @ pylon: Torsional moment [MNm]

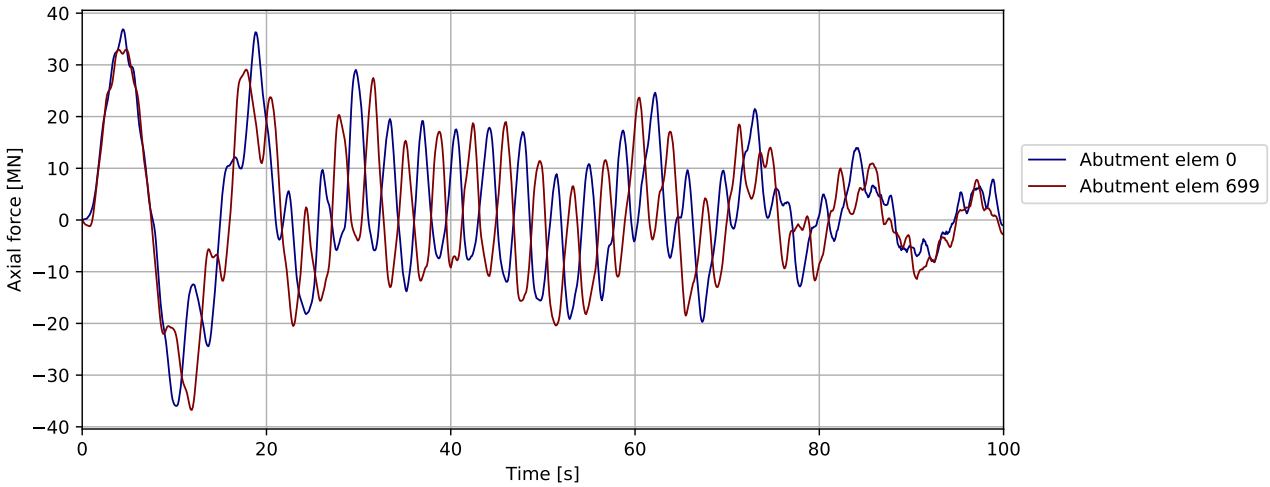

Figure 3.1463: P A20 180deg - bridgegirder @abutments: Axial force [MN]

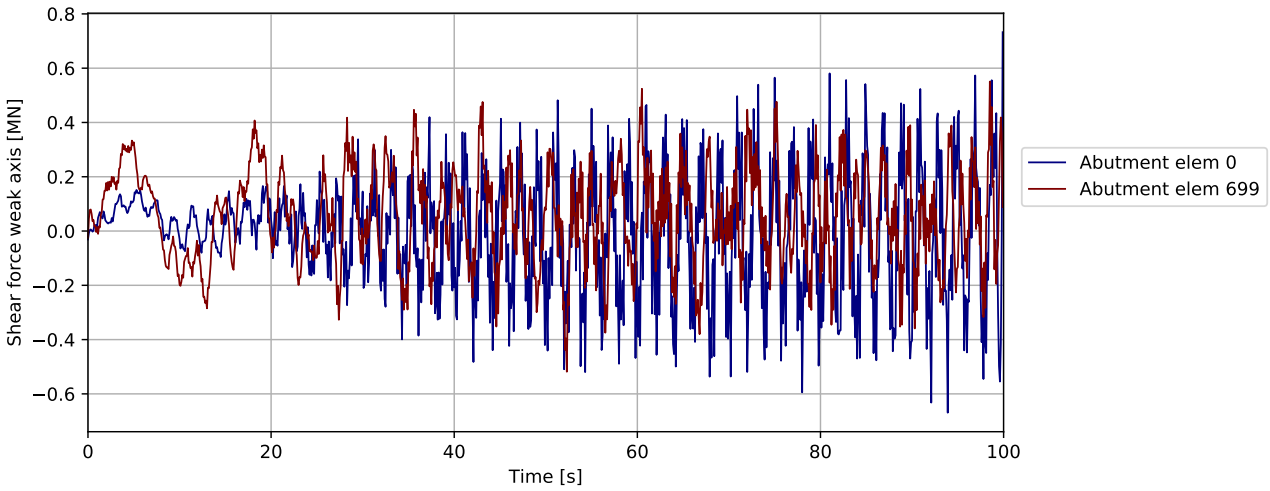

Figure 3.1464: P A20 180deg - bridgegirder @abutments: Shear force weak axis [MN]

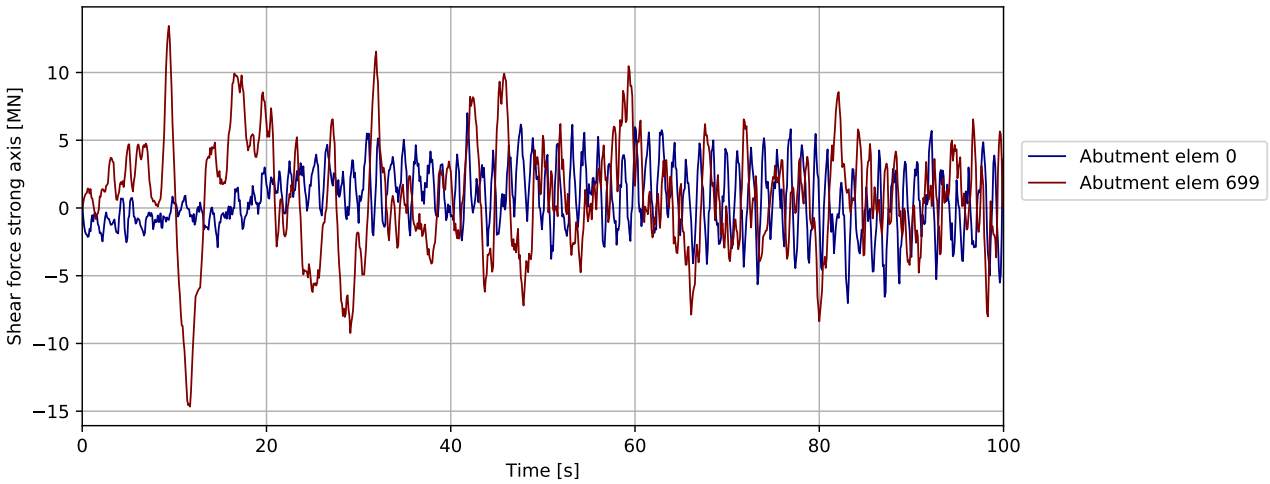

Figure 3.1465: P A20 180deg - bridgegirder @abutments: Shear force strong axis [MN]

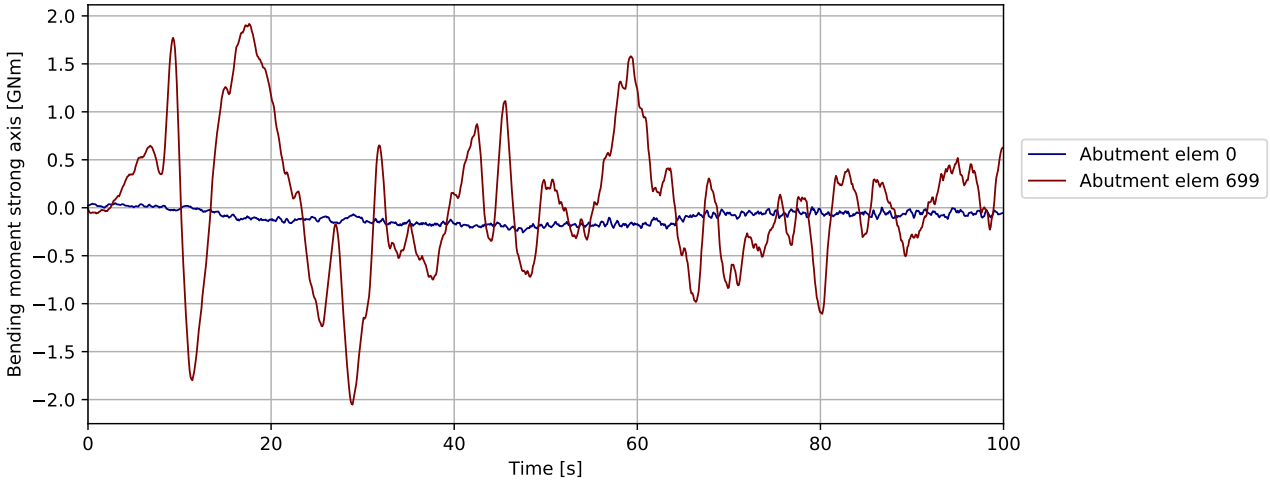

Figure 3.1466: P A20 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

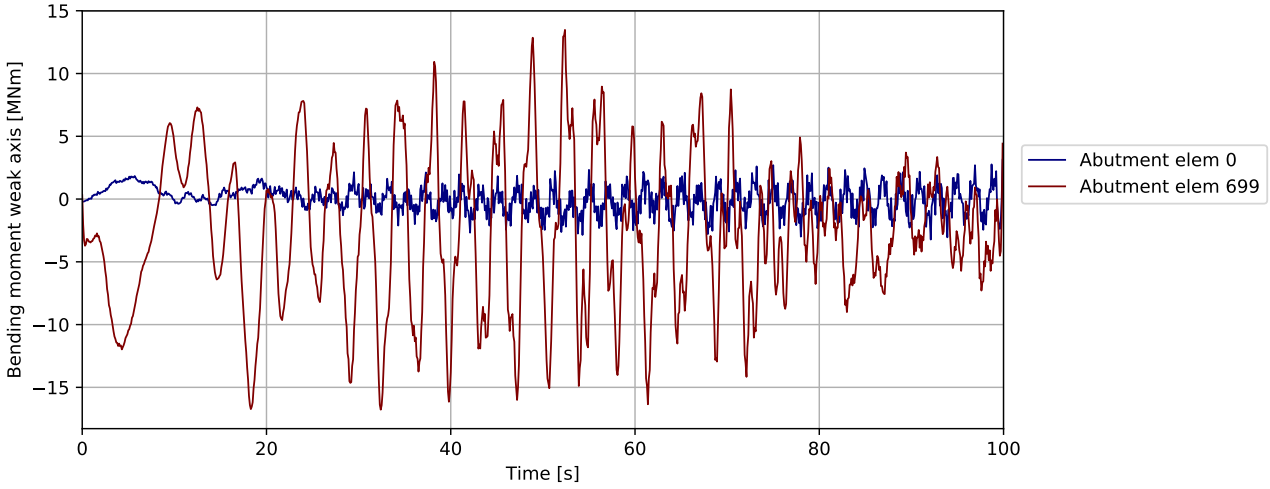

Figure 3.1467: P A20 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

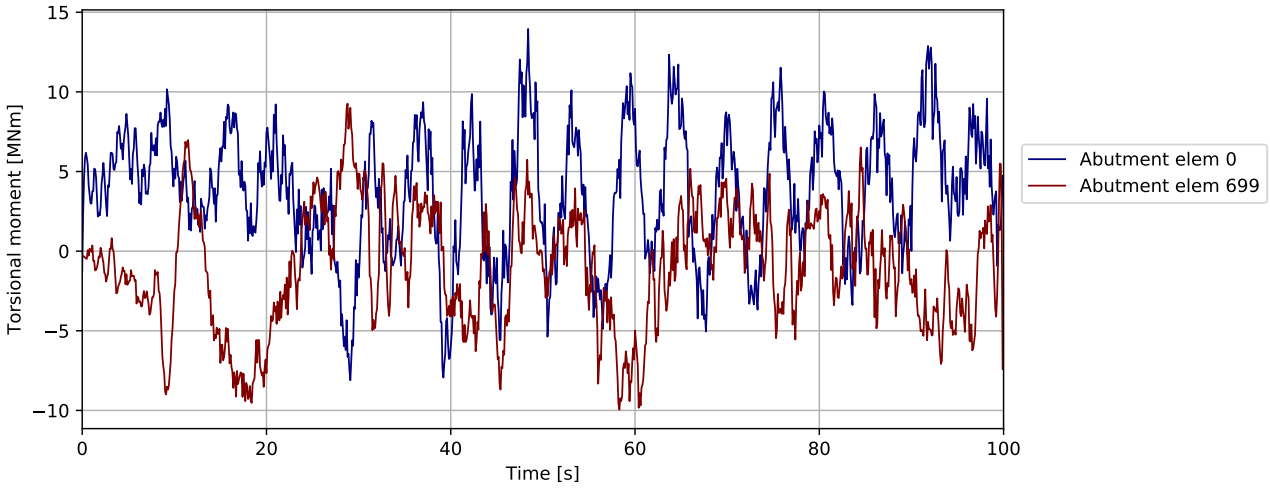

Figure 3.1468: P A20 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

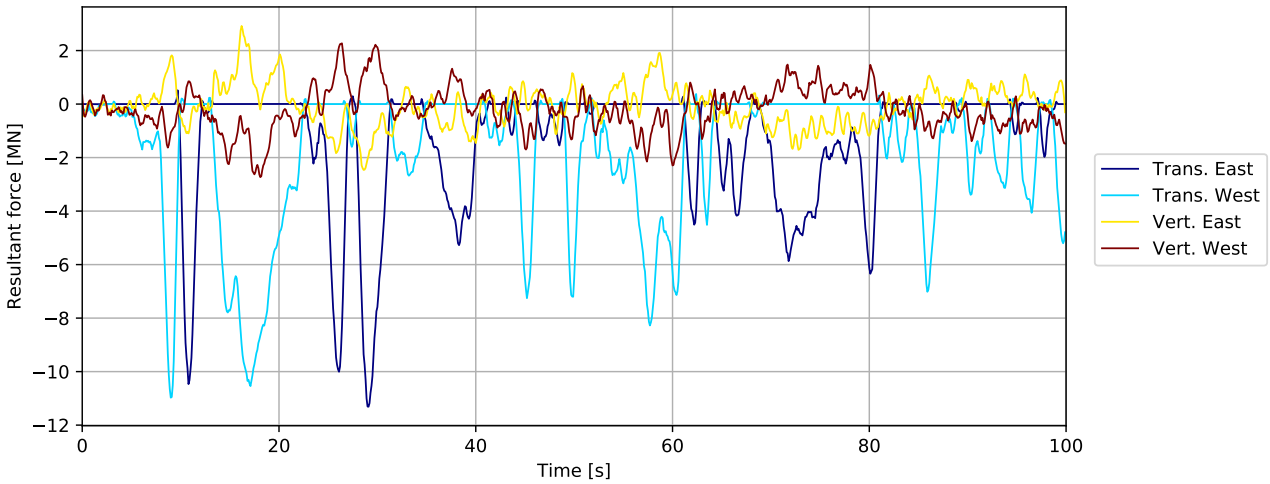

Figure 3.1469: P A20 180deg - bridgegirder supports in tower: Resultant force [MN]

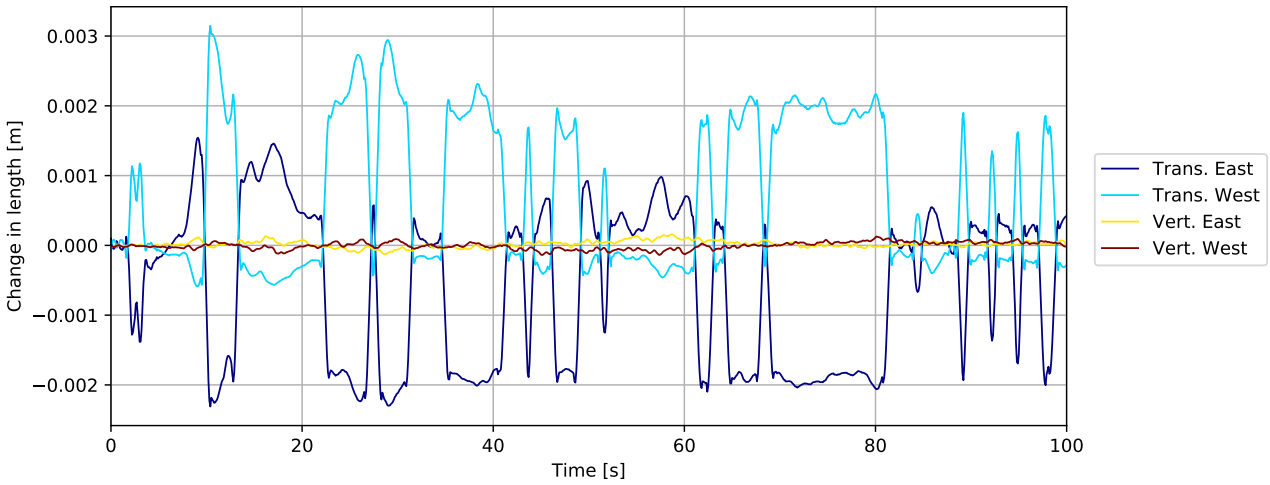

Figure 3.1470: P A20 180deg - bridgegirder supports in tower: Change in length [m]

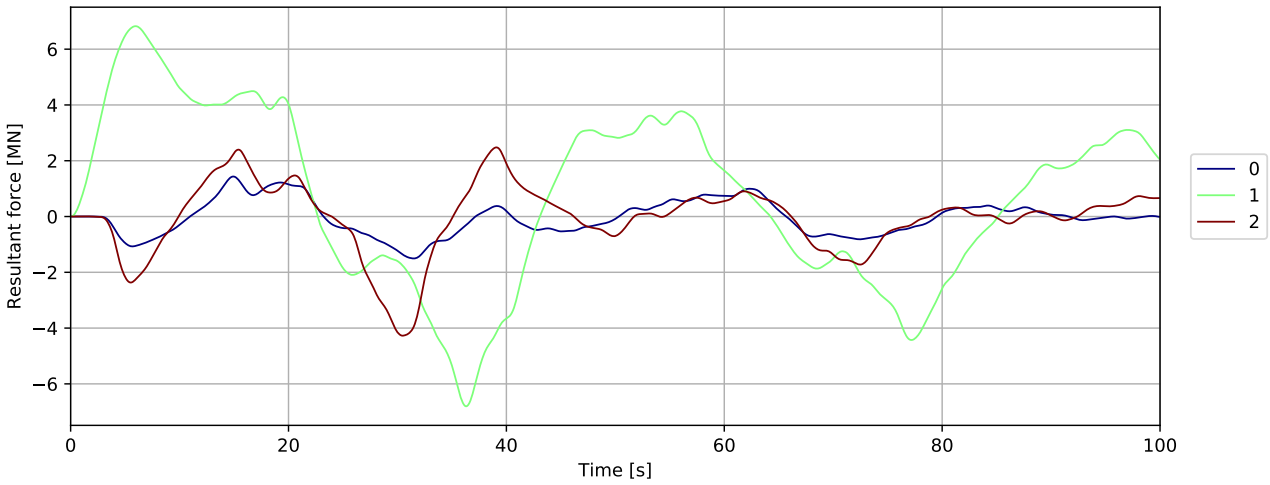

Figure 3.1471: Mooring force

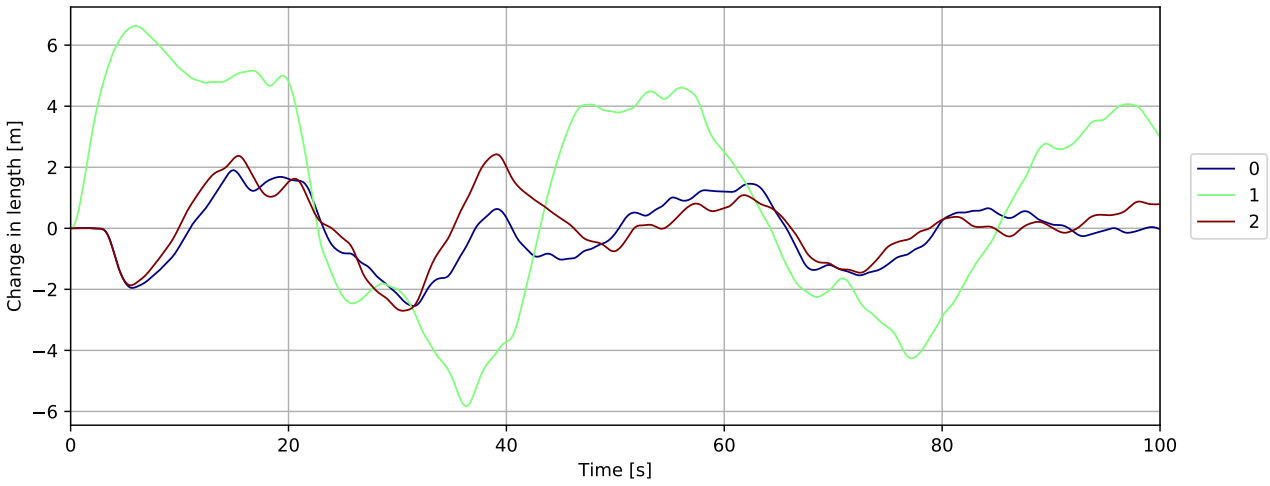

Figure 3.1472: Mooring displacement

3.33 PontoonA30 180deg

3.33.1 Overall response

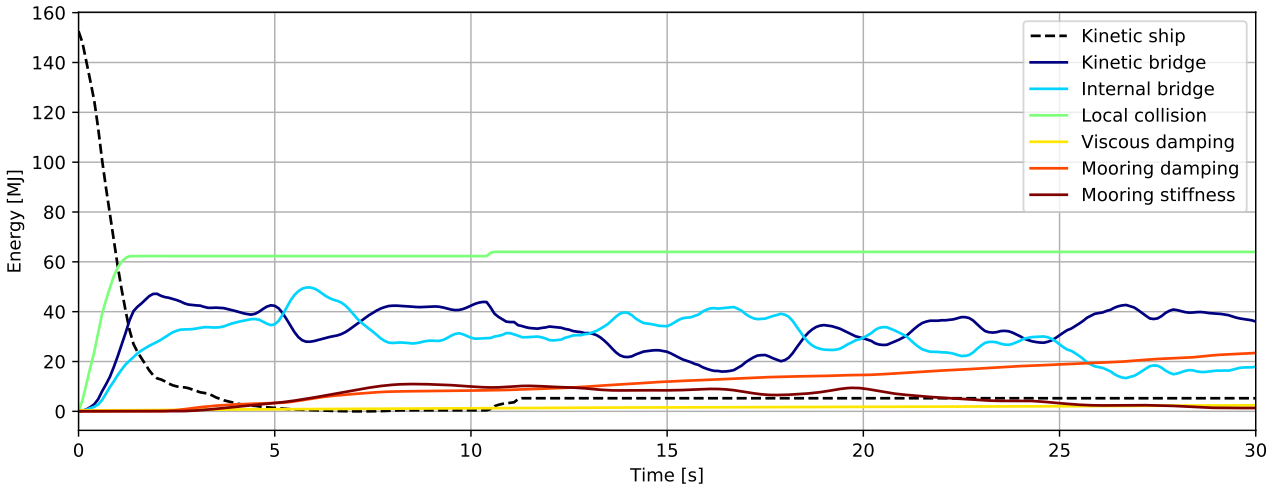

Figure 3.1473: Energy [MJ] - initial phase

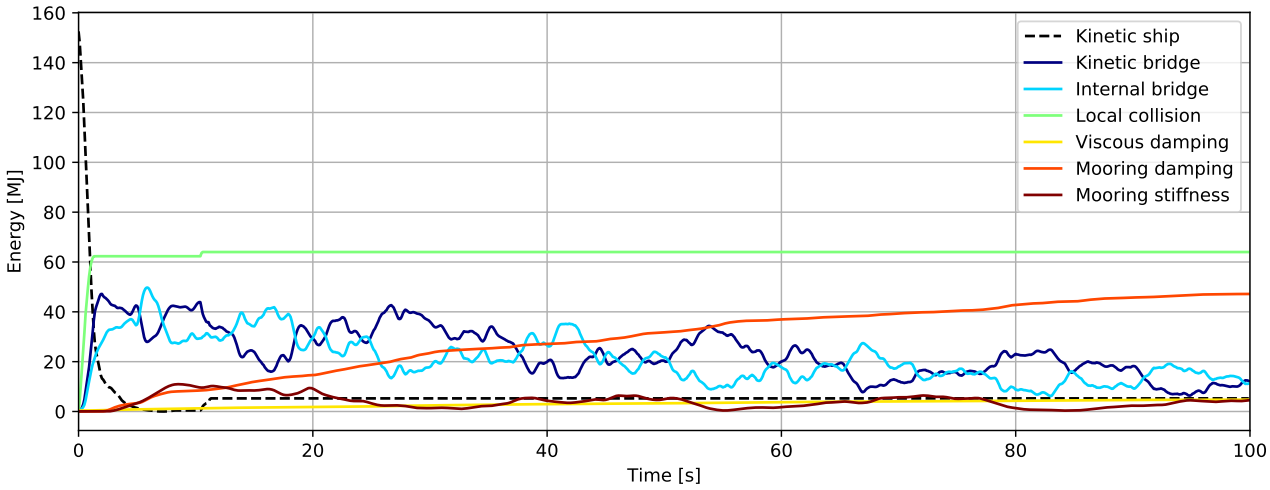

Figure 3.1474: Energy [MJ]

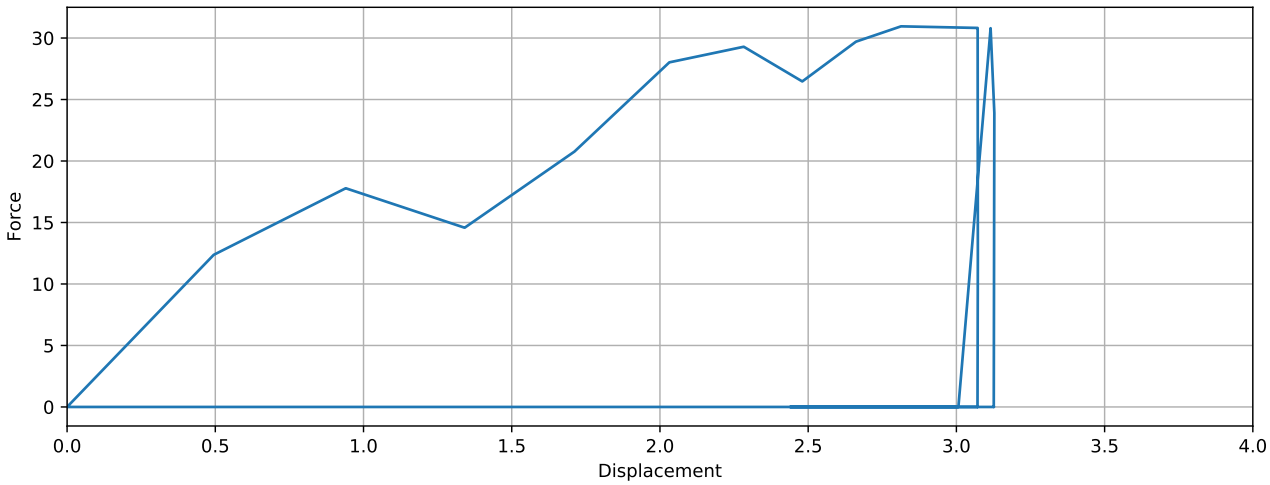

Figure 3.1475: Simulated local collision force-displacement

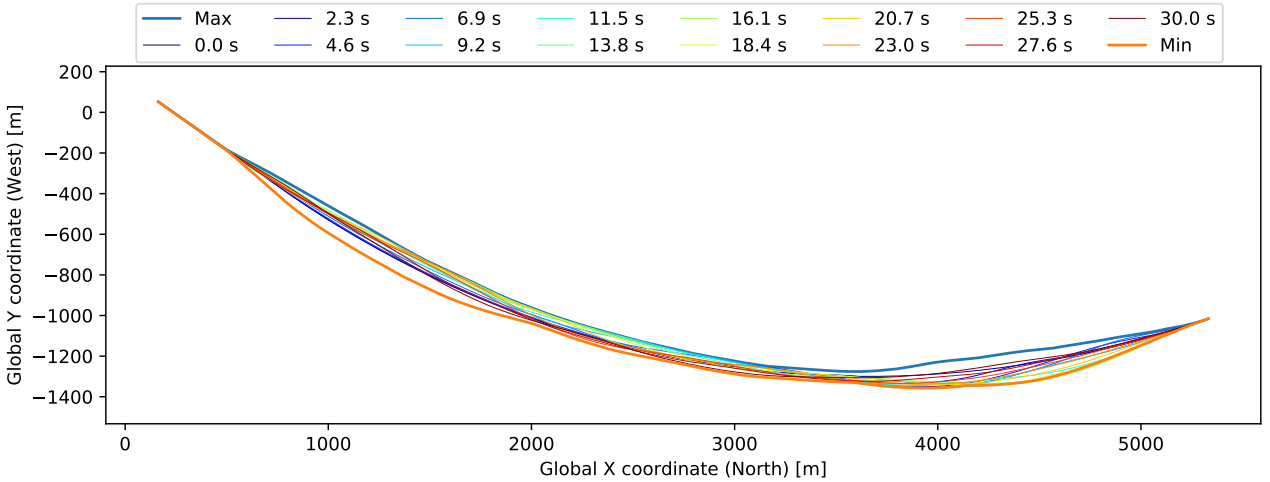

Figure 3.1476: Bridgegirder deflection (10x displacment scaling)

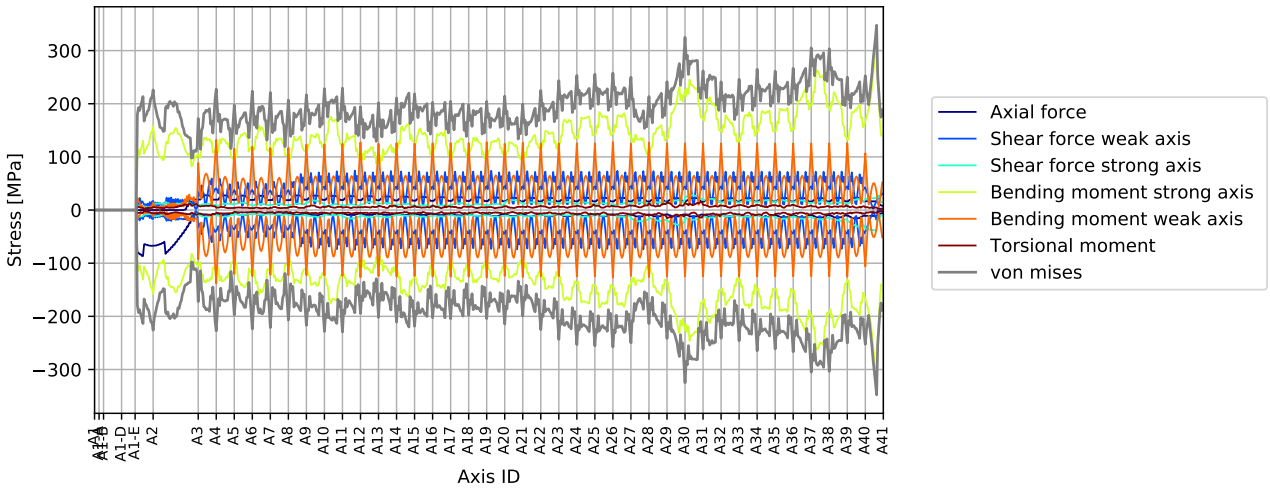

Figure 3.1477: Stress envelope from all force components

3.33.2 Envelope plots

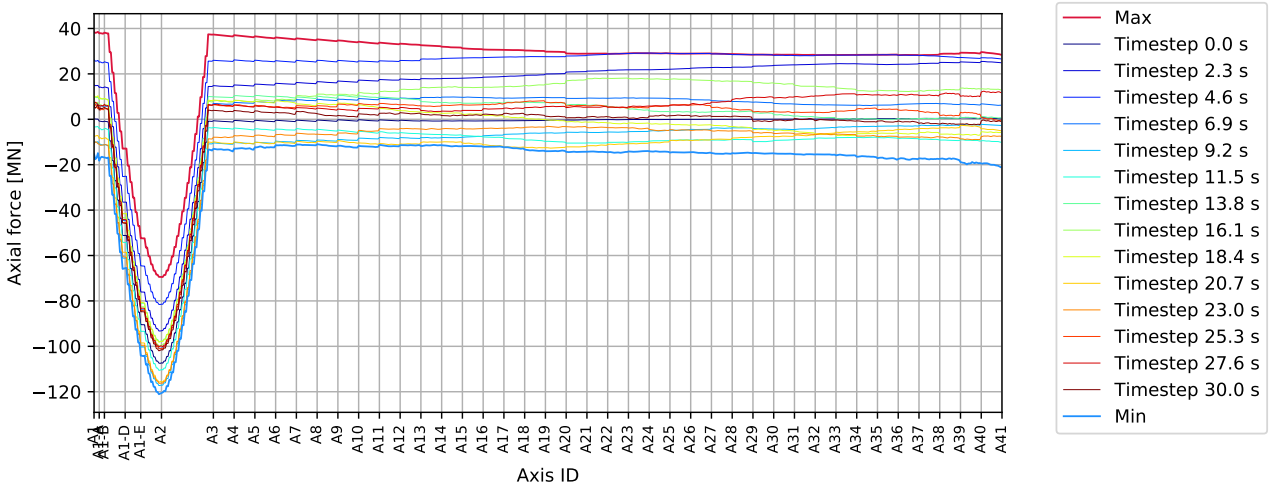

Figure 3.1478: P A30 180deg - bridgegirder : Axial force [MN]

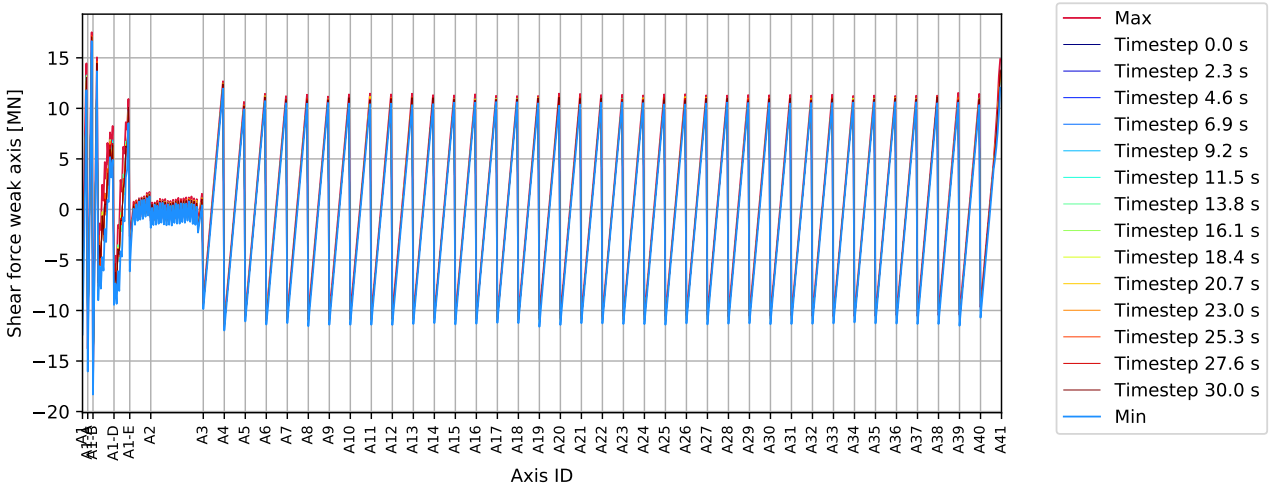

Figure 3.1479: P A30 180deg - bridgegirder : Shear force weak axis [MN]

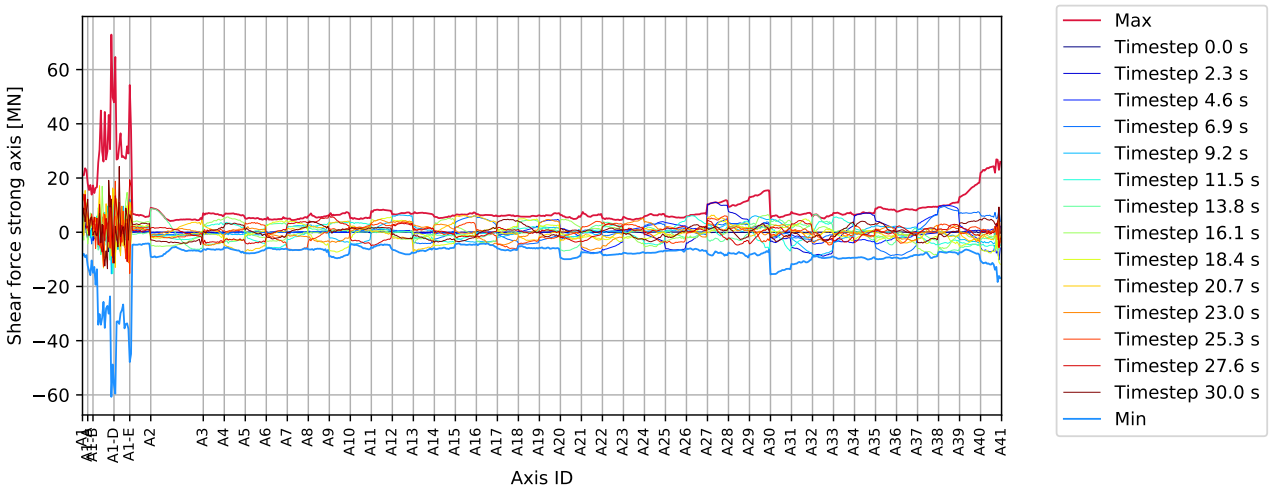

Figure 3.1480: P A30 180deg - bridgegirder : Shear force strong axis [MN]

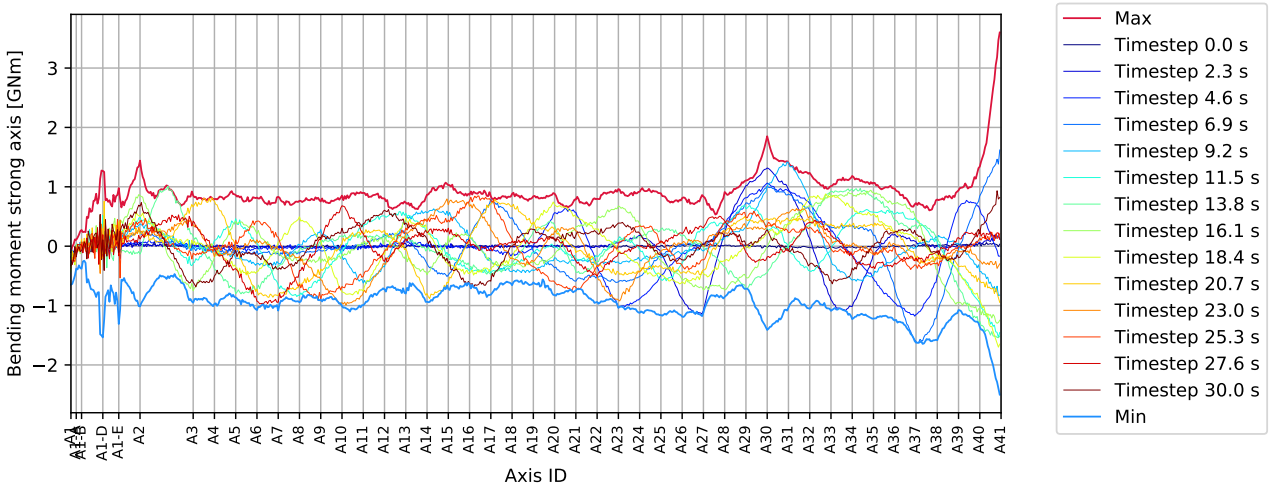

Figure 3.1481: P A30 180deg - bridgegirder : Bending moment strong axis [GNm]

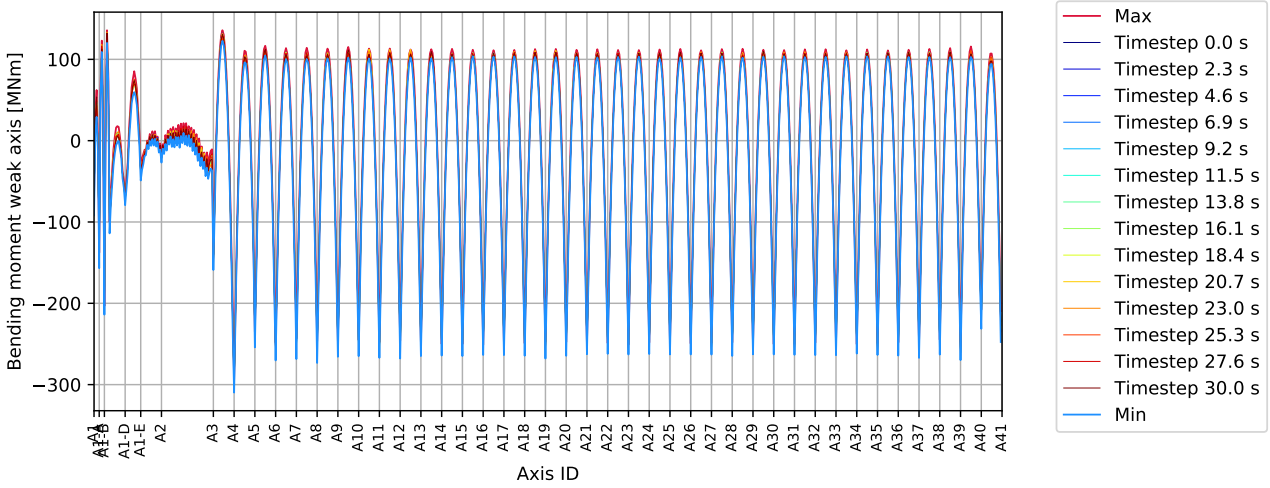

Figure 3.1482: P A30 180deg - bridgegirder : Bending moment weak axis [MNm]

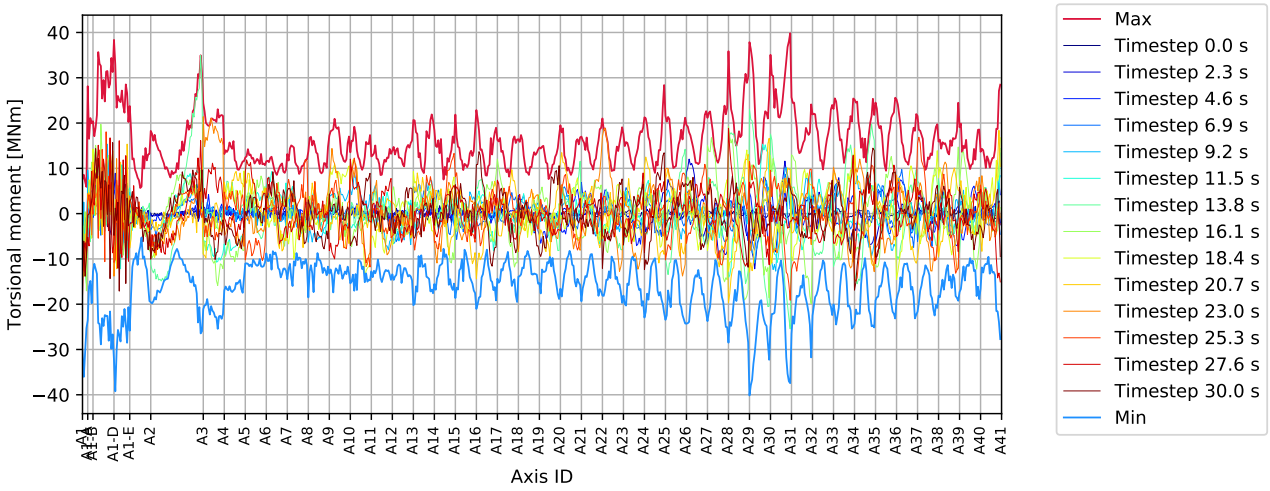

Figure 3.1483: P A30 180deg - bridgegirder : Torsional moment [MNm]

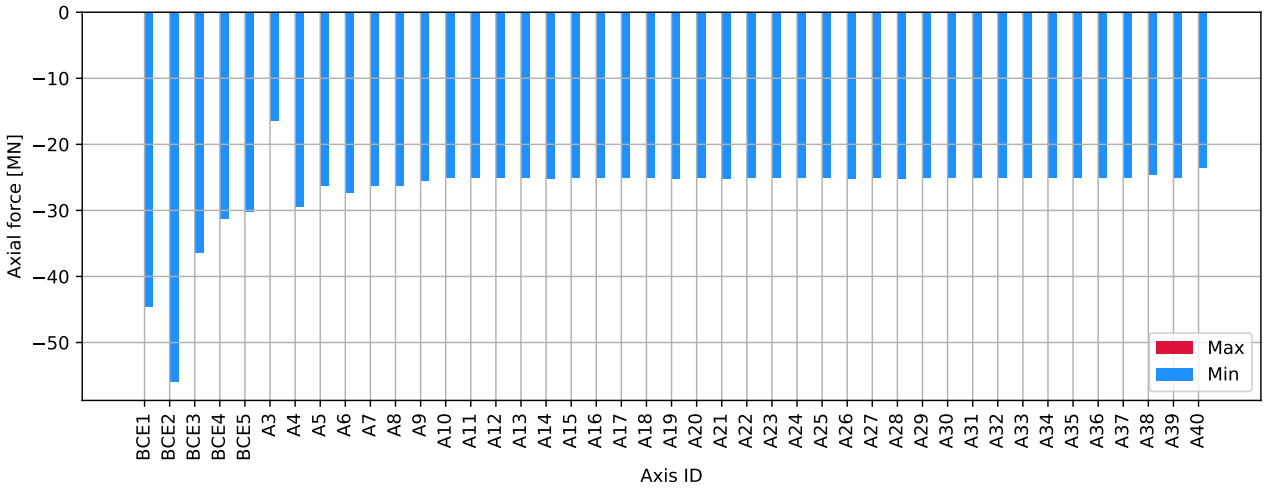

Figure 3.1484: P A30 180deg - columns bottom : Axial force [MN]

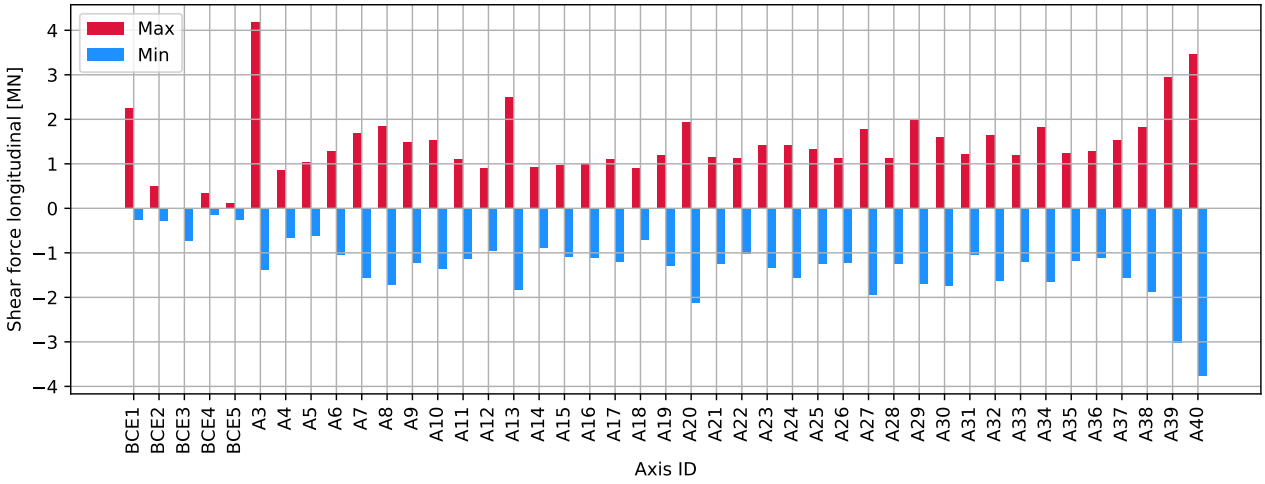

Figure 3.1485: P A30 180deg - columns bottom : Shear force longitudinal [MN]

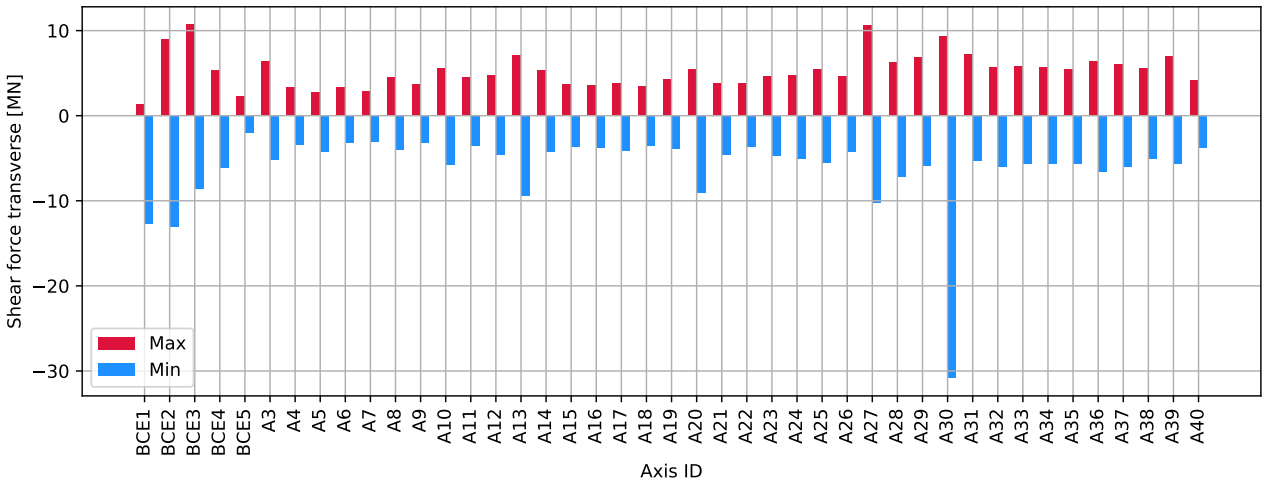

Figure 3.1486: P A30 180deg - columns bottom : Shear force transverse [MN]

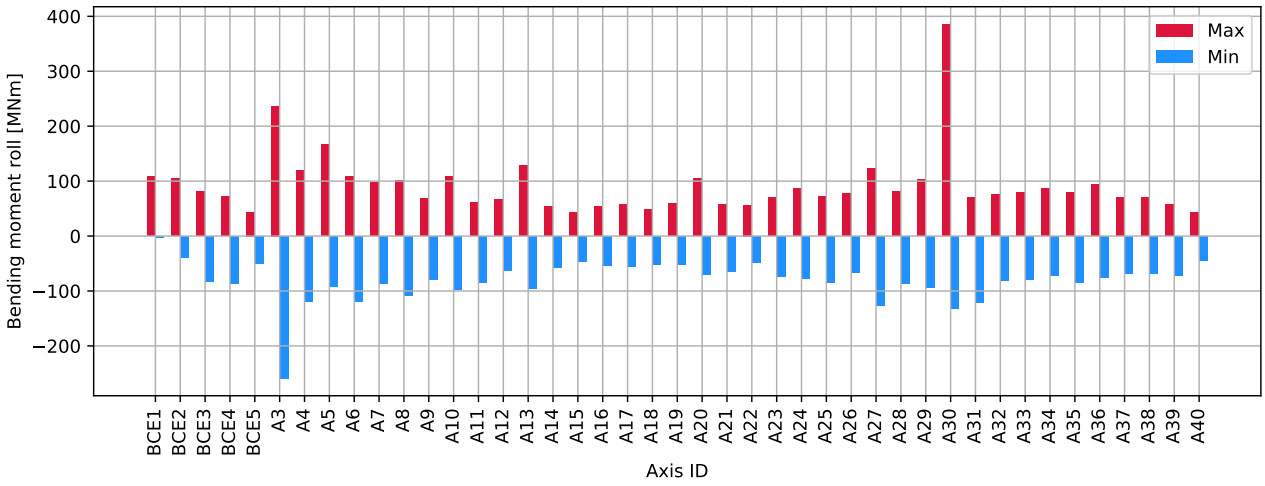

Figure 3.1487: P A30 180deg - columns bottom : Bending moment roll [MNm]

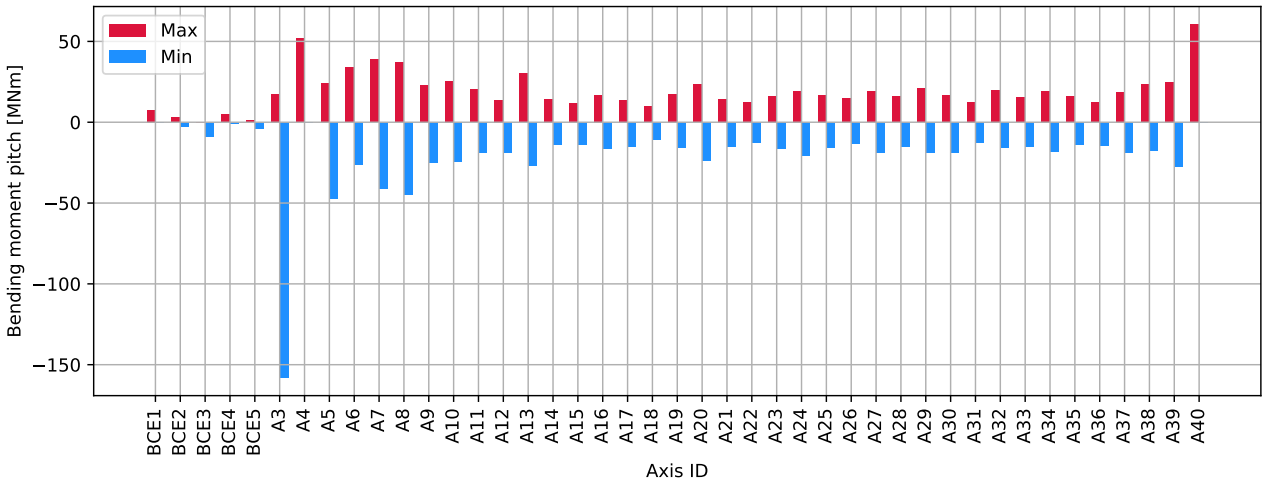

Figure 3.1488: P A30 180deg - columns bottom : Bending moment pitch [MNm]

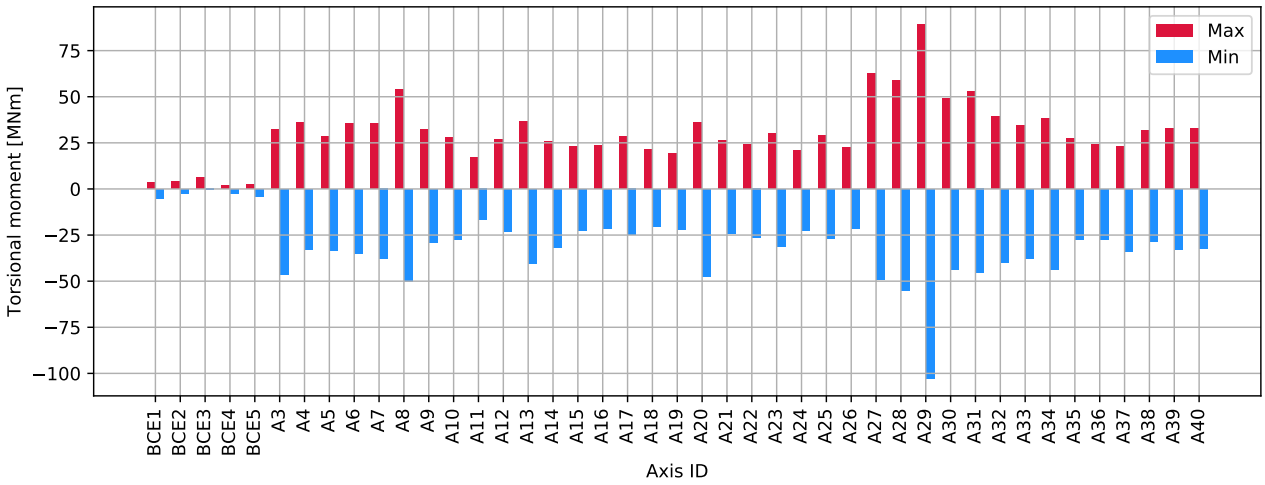

Figure 3.1489: P A30 180deg - columns bottom : Torsional moment [MNm]

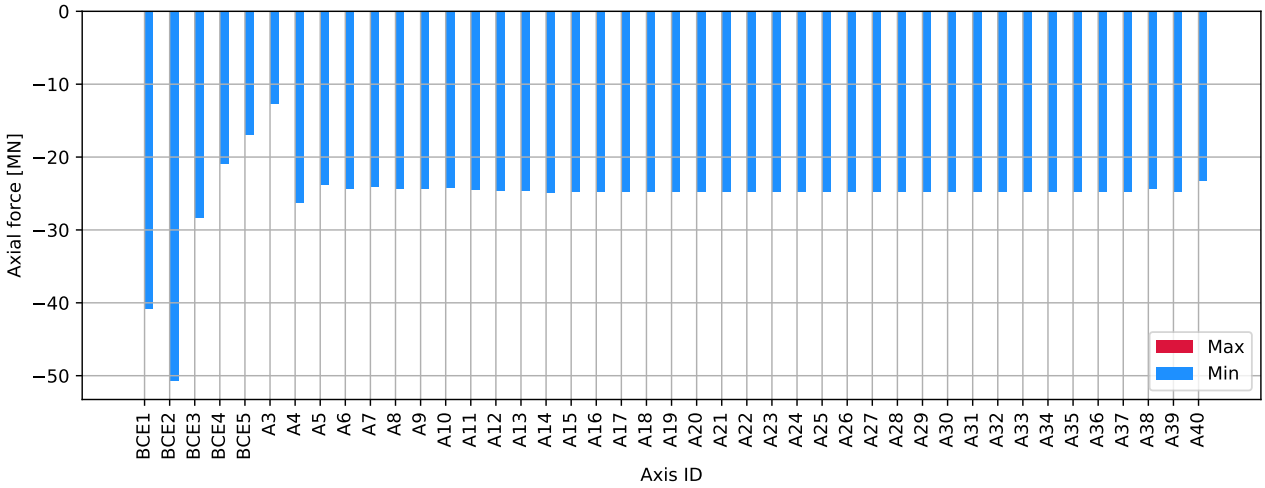

Figure 3.1490: P A30 180deg - columns top : Axial force [MN]

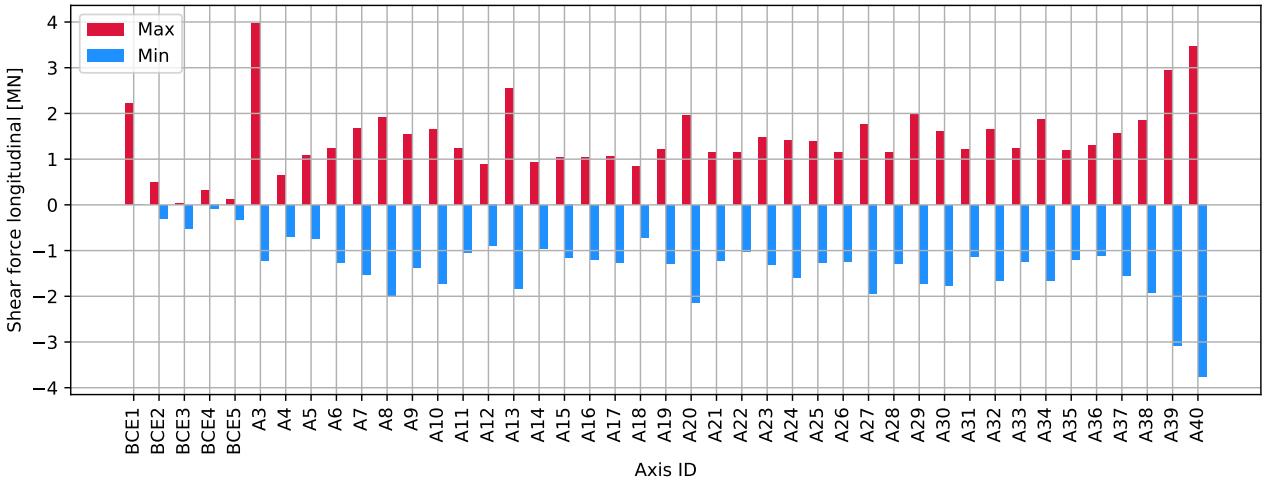

Figure 3.1491: P A30 180deg - columns top : Shear force longitudinal [MN]

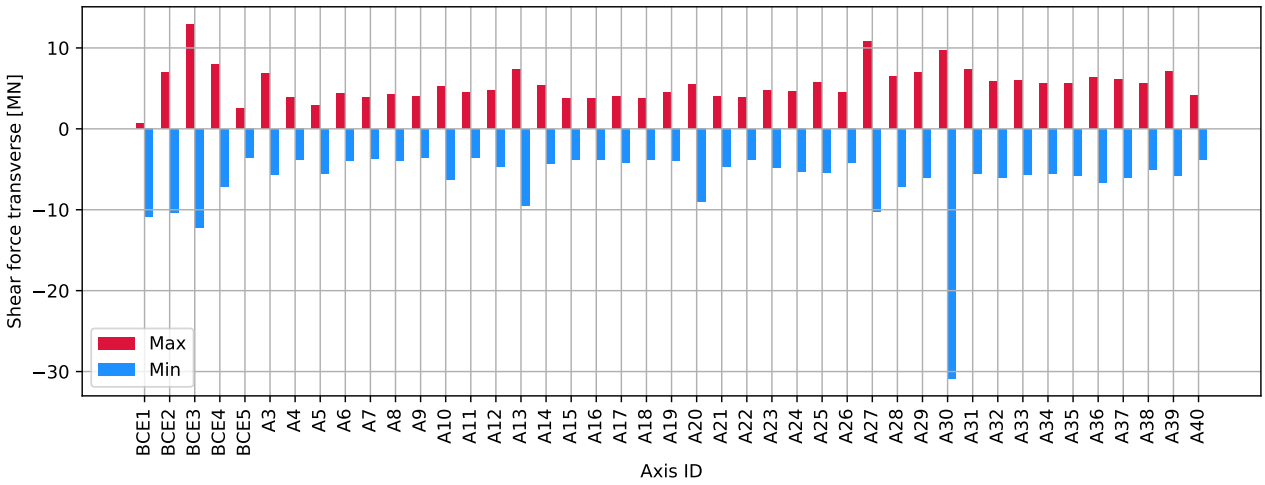

Figure 3.1492: P A30 180deg - columns top : Shear force transverse [MN]

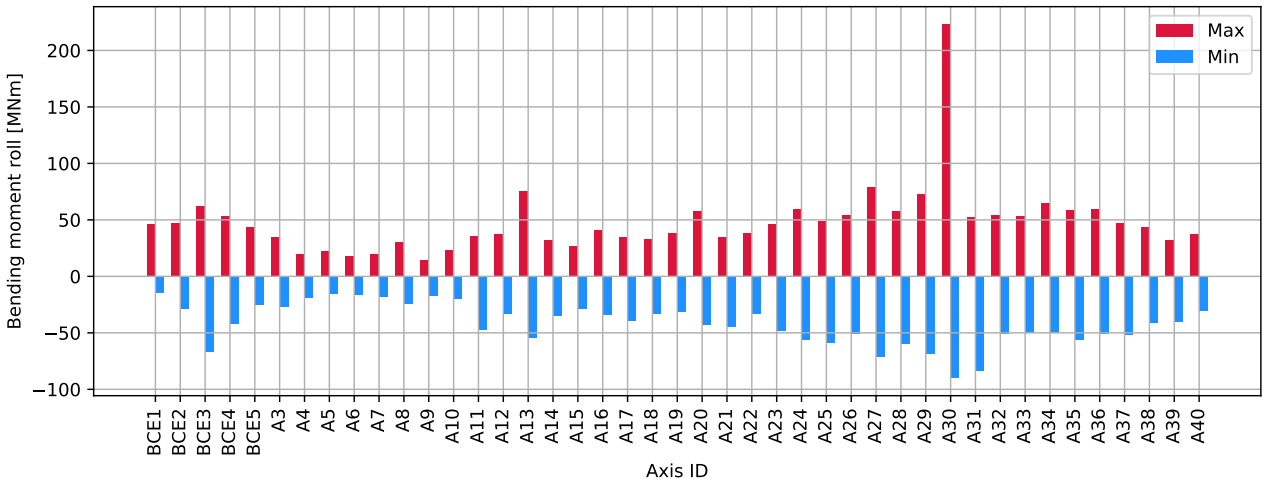

Figure 3.1493: P A30 180deg - columns top : Bending moment roll [MNm]

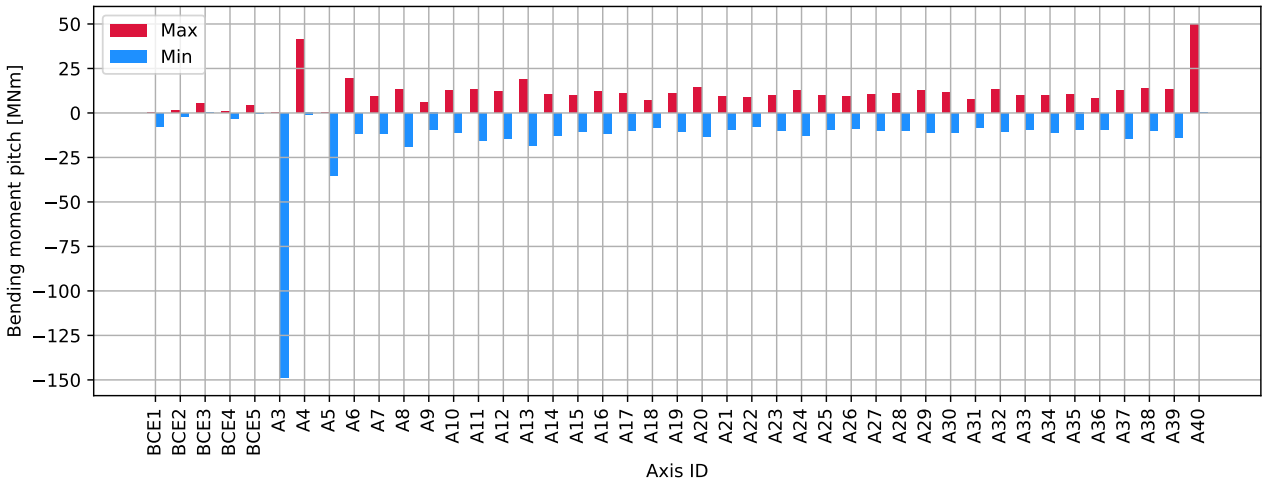

Figure 3.1494: P A30 180deg - columns top : Bending moment pitch [MNm]

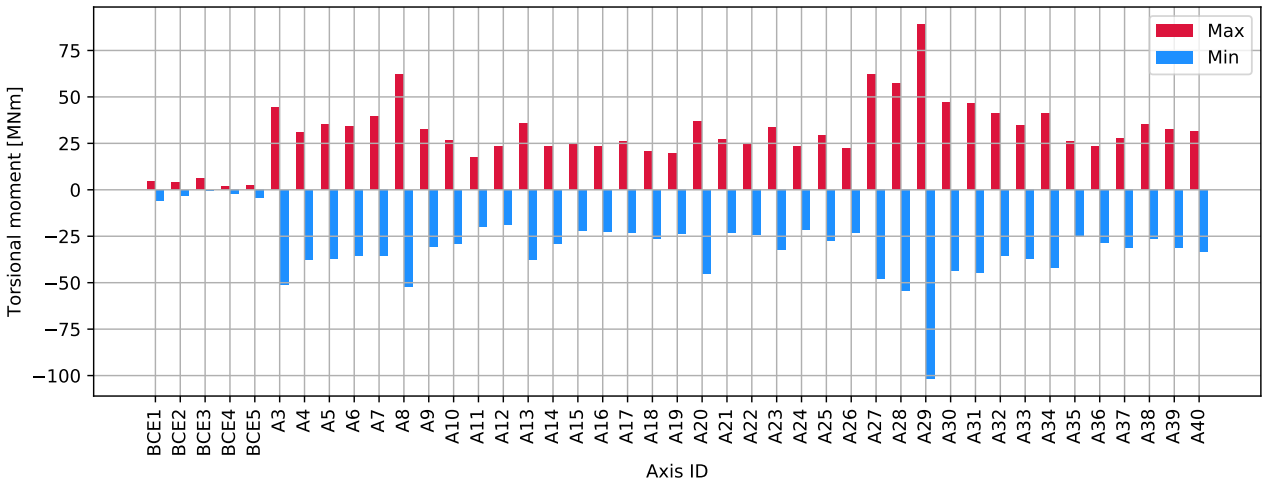

Figure 3.1495: P A30 180deg - columns top : Torsional moment [MNm]

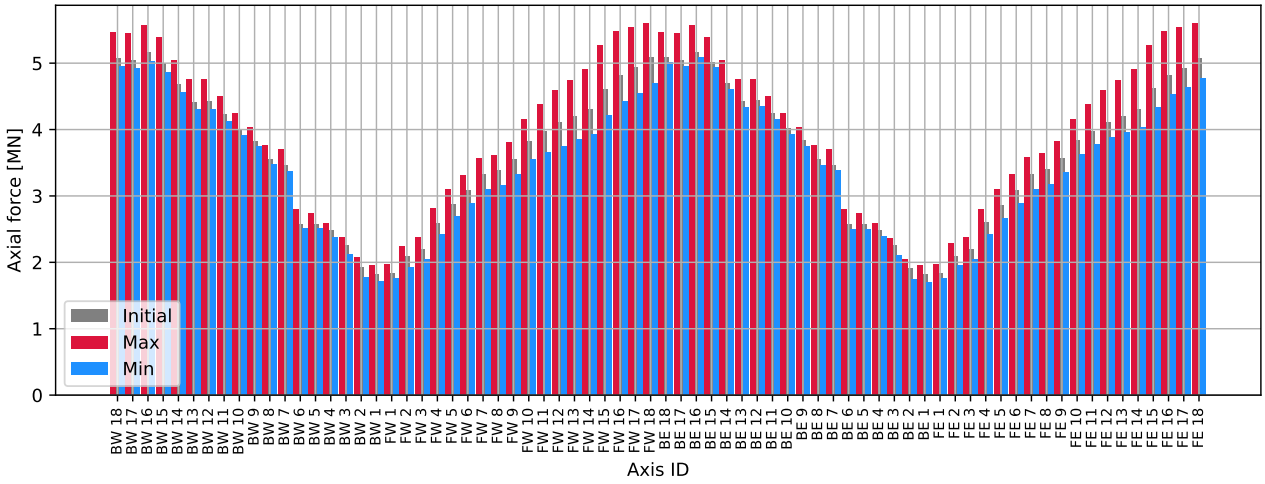

Figure 3.1496: P A30 180deg - cables : Axial force [MN]

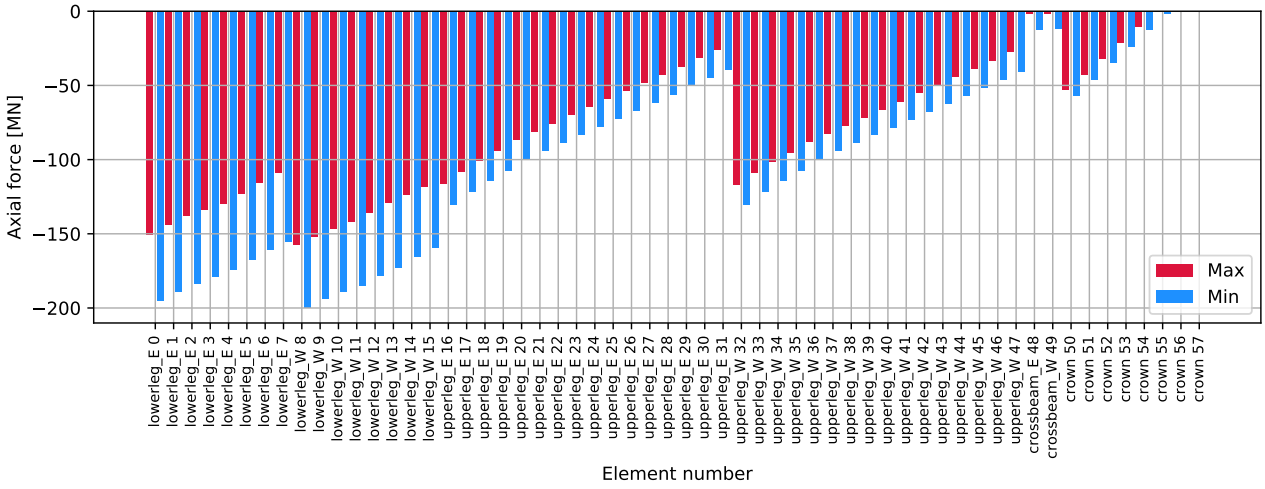

Figure 3.1497: P A30 180deg - tower: Axial force [MN]

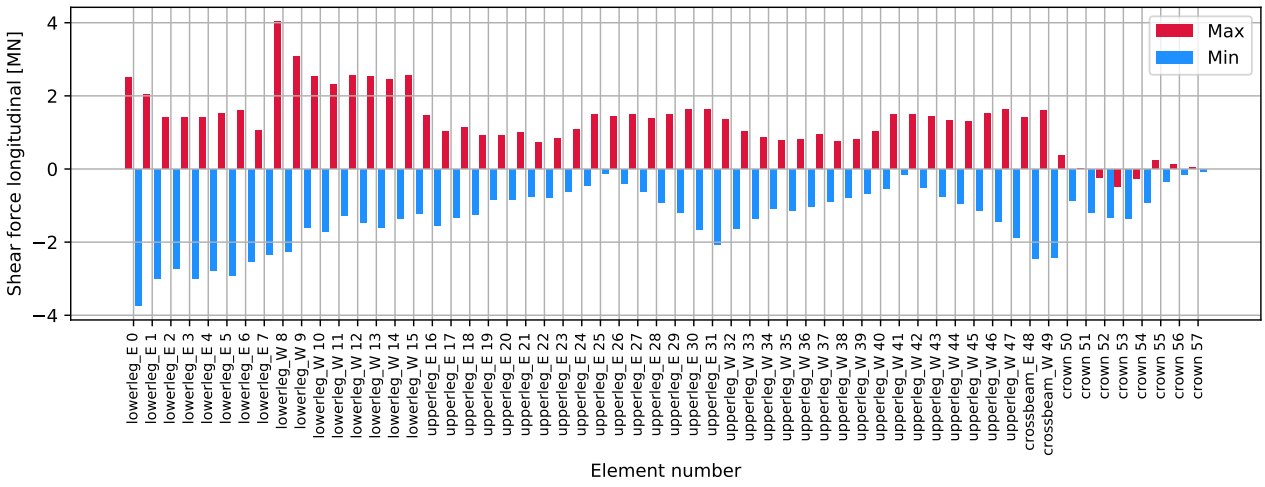

Figure 3.1498: P A30 180deg - tower: Shear force longitudinal [MN]

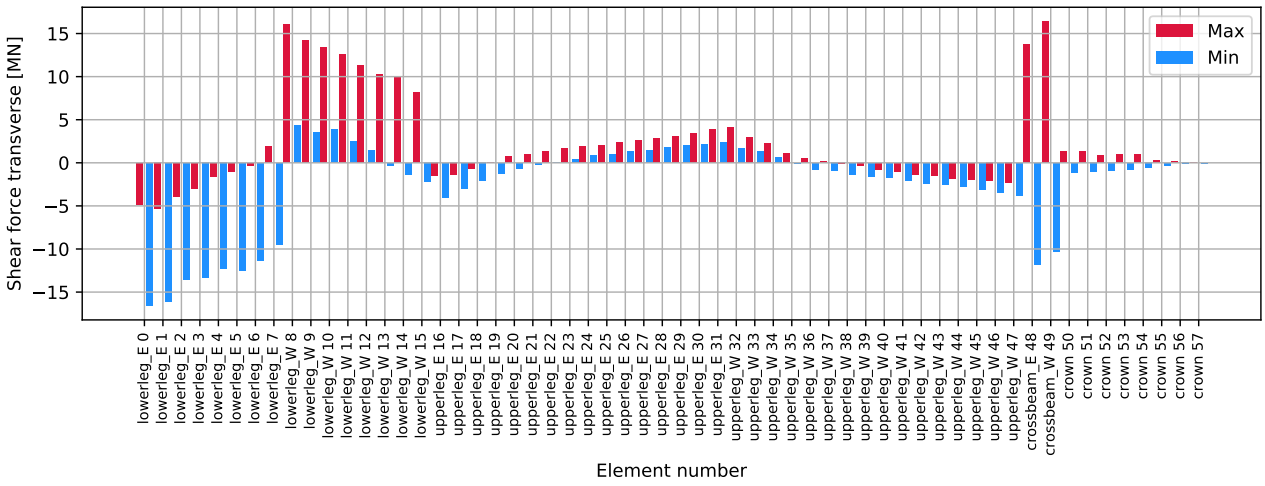

Figure 3.1499: P A30 180deg - tower: Shear force transverse [MN]

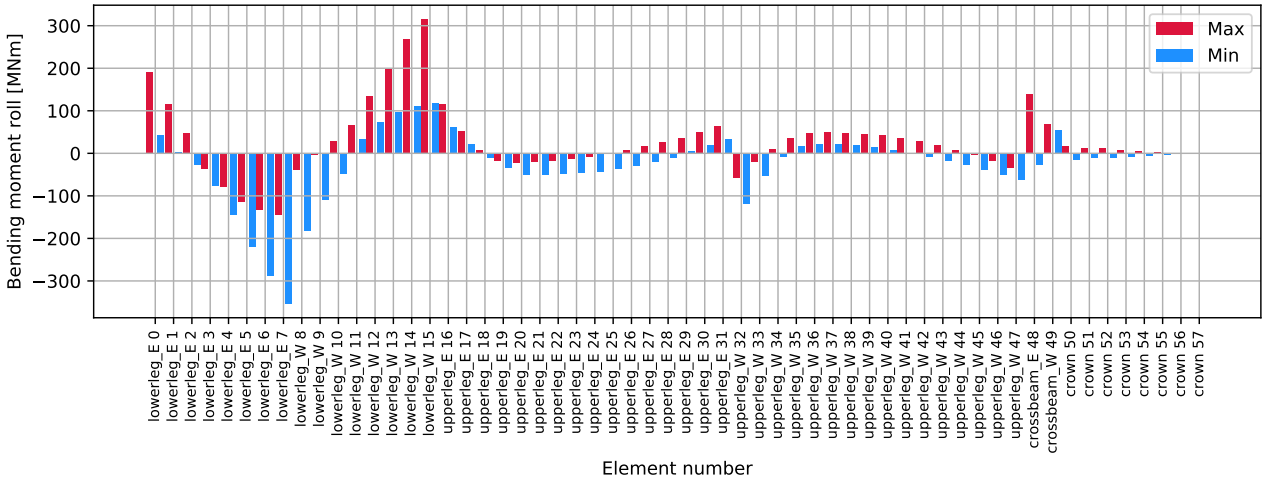

Figure 3.1500: P A30 180deg - tower: Bending moment roll [MNm]

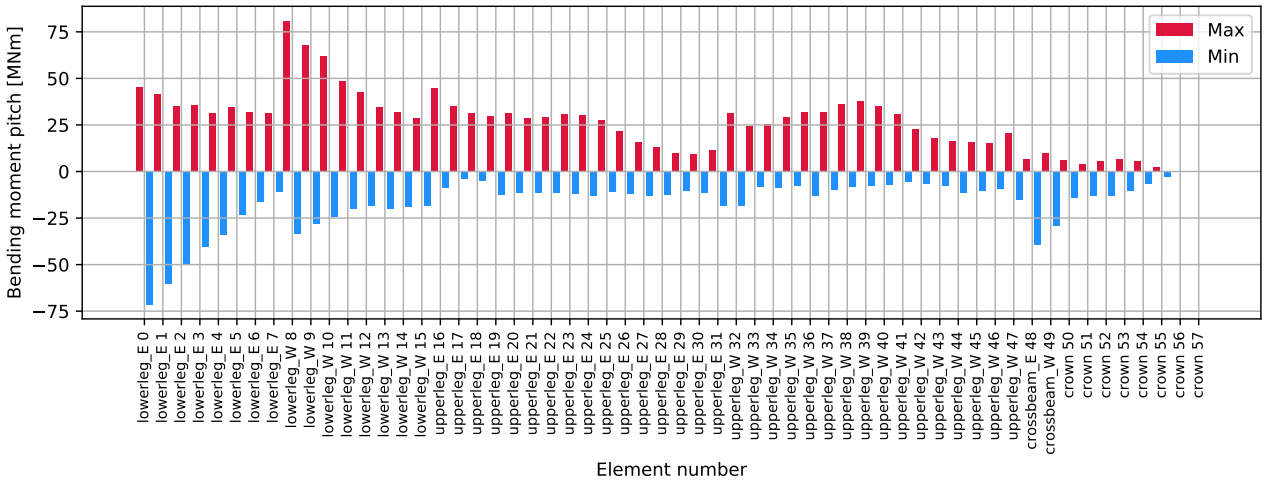

Figure 3.1501: P A30 180deg - tower: Bending moment pitch [MNm]

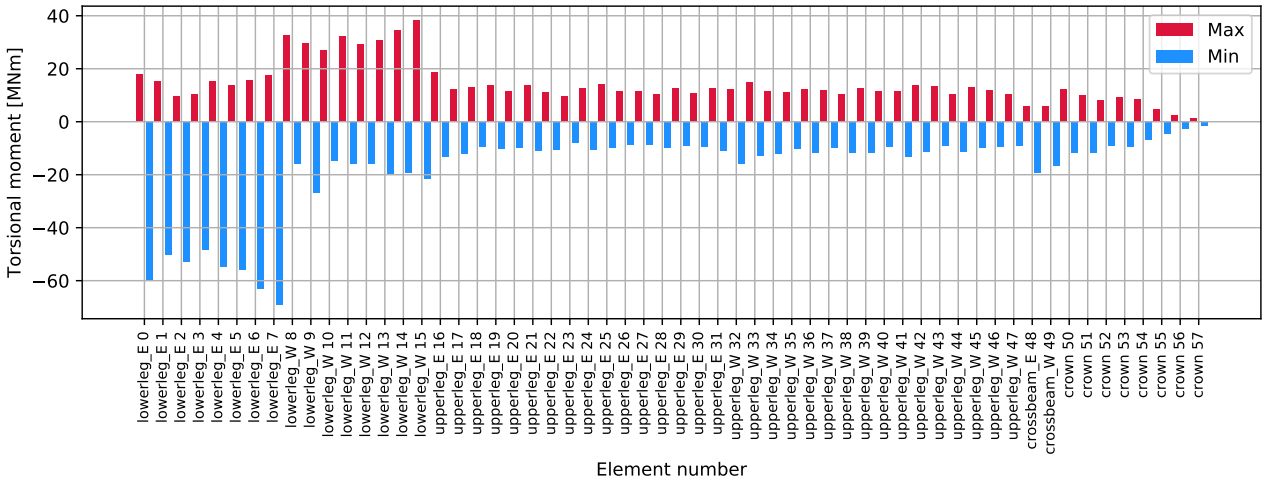

Figure 3.1502: P A30 180deg - tower: Torsional moment [MNm]

3.33.3 Time series

Note : Time series are filtered using a Saviotzky-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

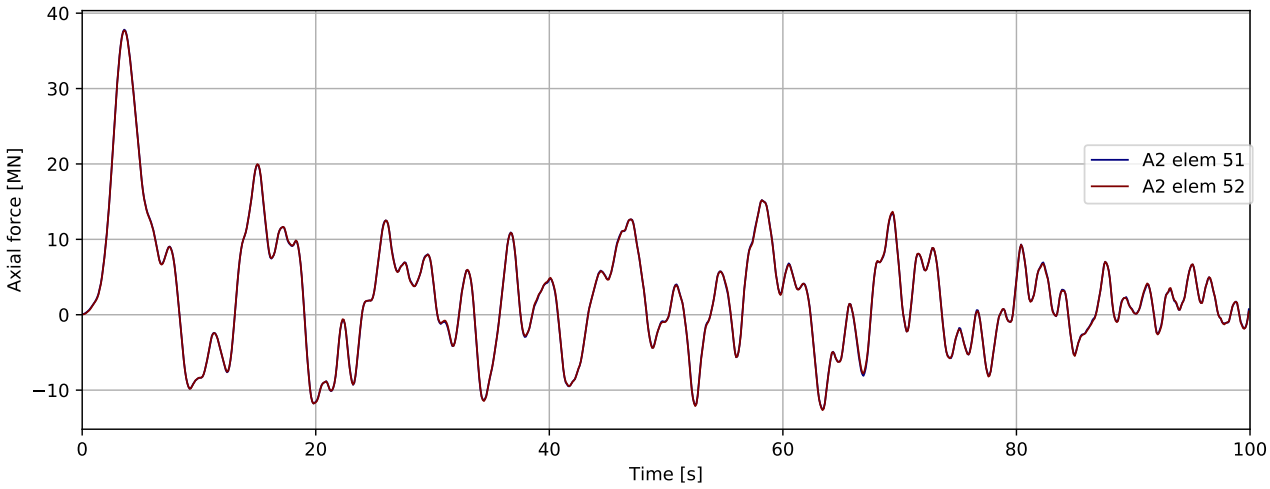

Figure 3.1503: P A30 180deg - bridgegirder @ pylon: Axial force [MN]

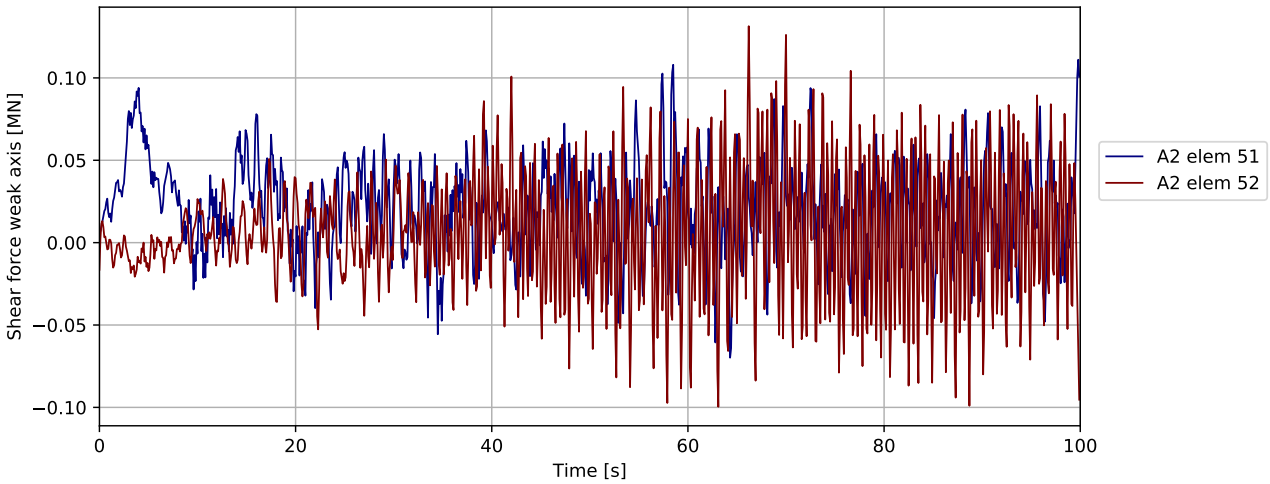

Figure 3.1504: P A30 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

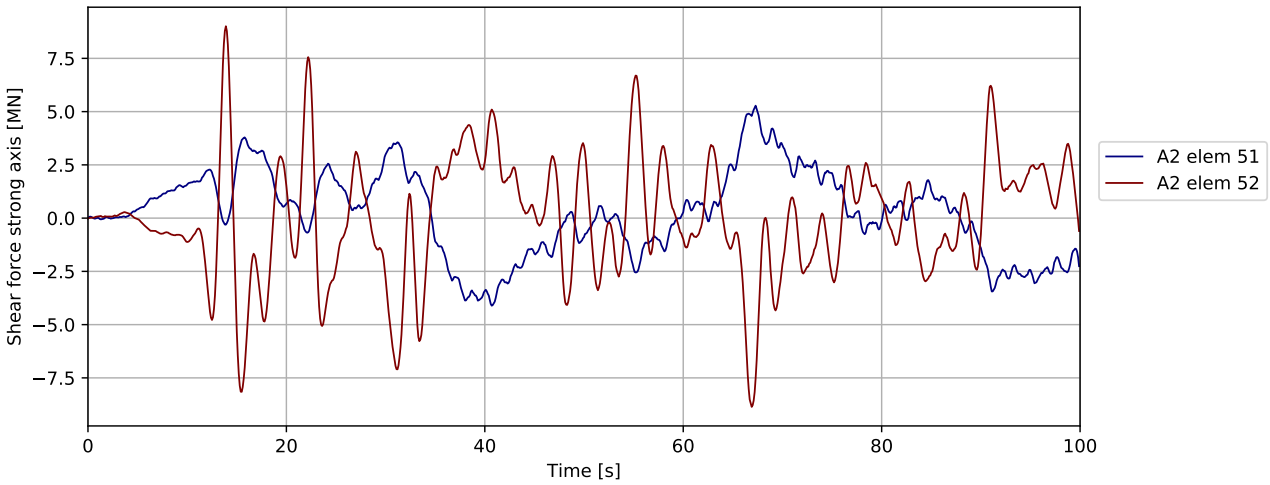

Figure 3.1505: P A30 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

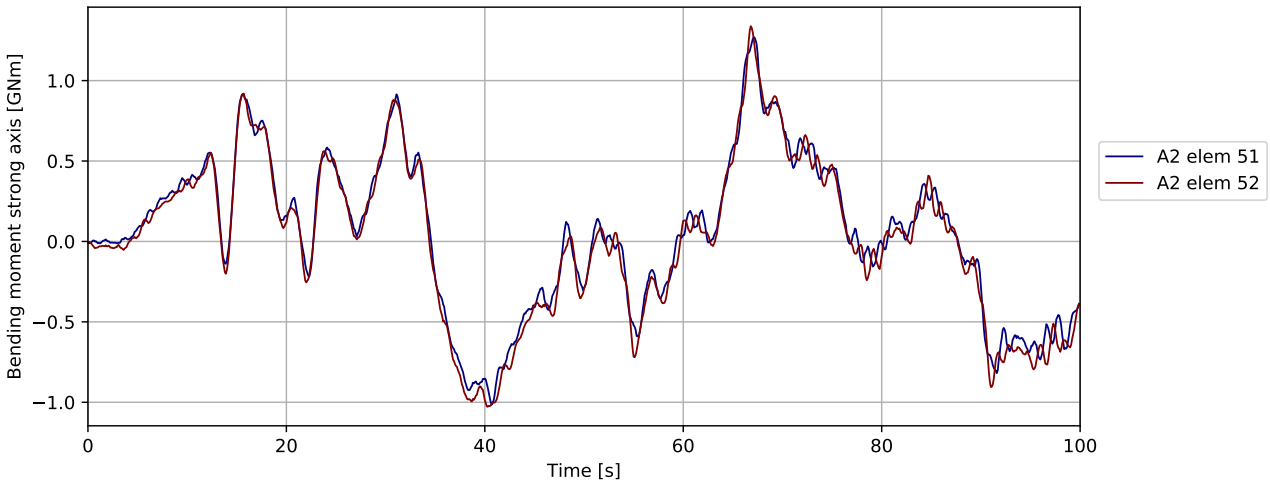

Figure 3.1506: P A30 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

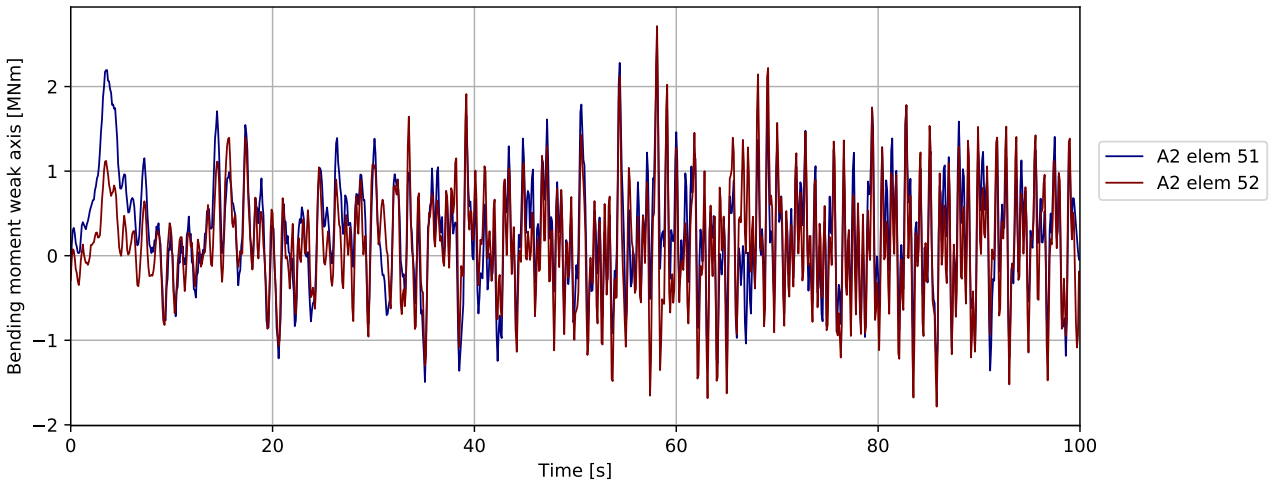

Figure 3.1507: P A30 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

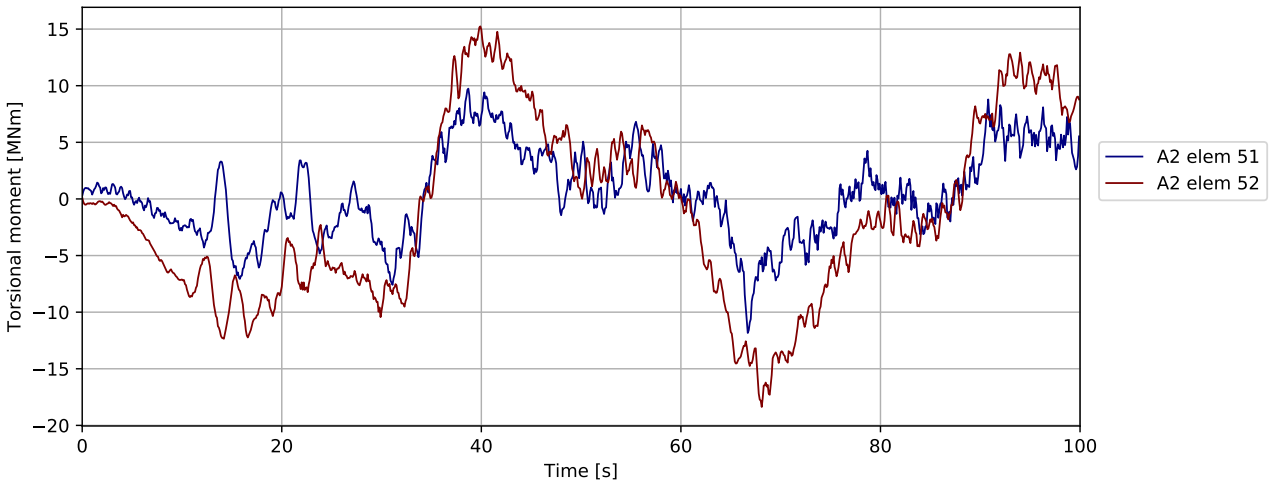

Figure 3.1508: P A30 180deg - bridgegirder @ pylon: Torsional moment [MNm]

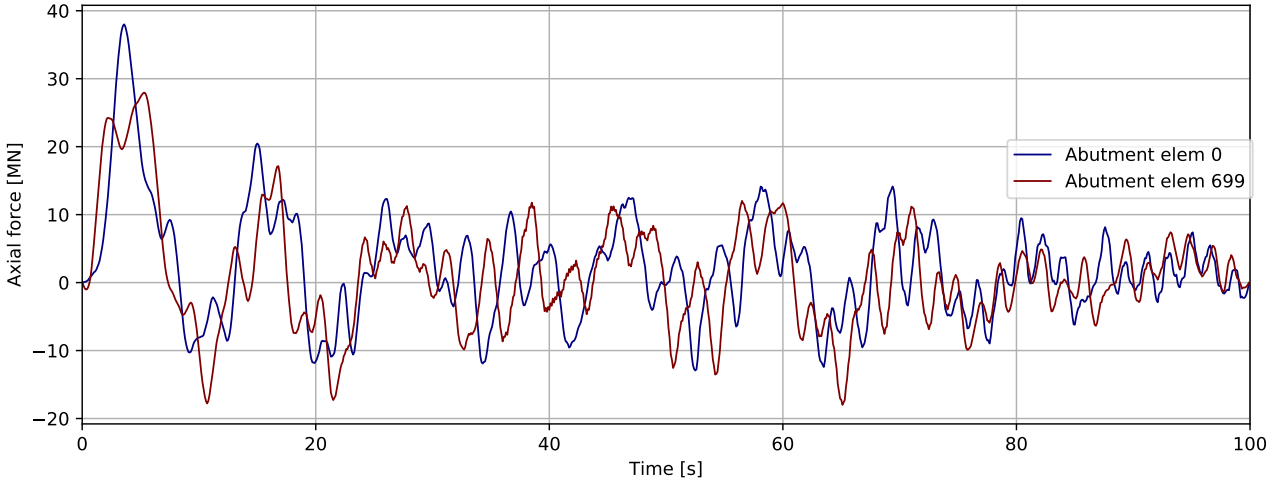

Figure 3.1509: P A30 180deg - bridgegirder @abutments: Axial force [MN]

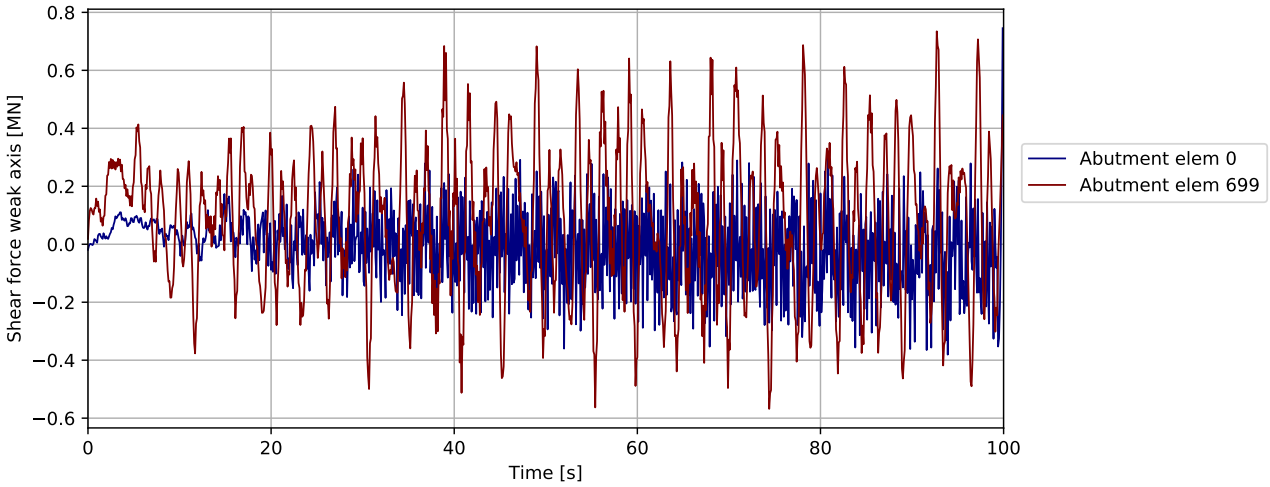

Figure 3.1510: P A30 180deg - bridgegirder @abutments: Shear force weak axis [MN]

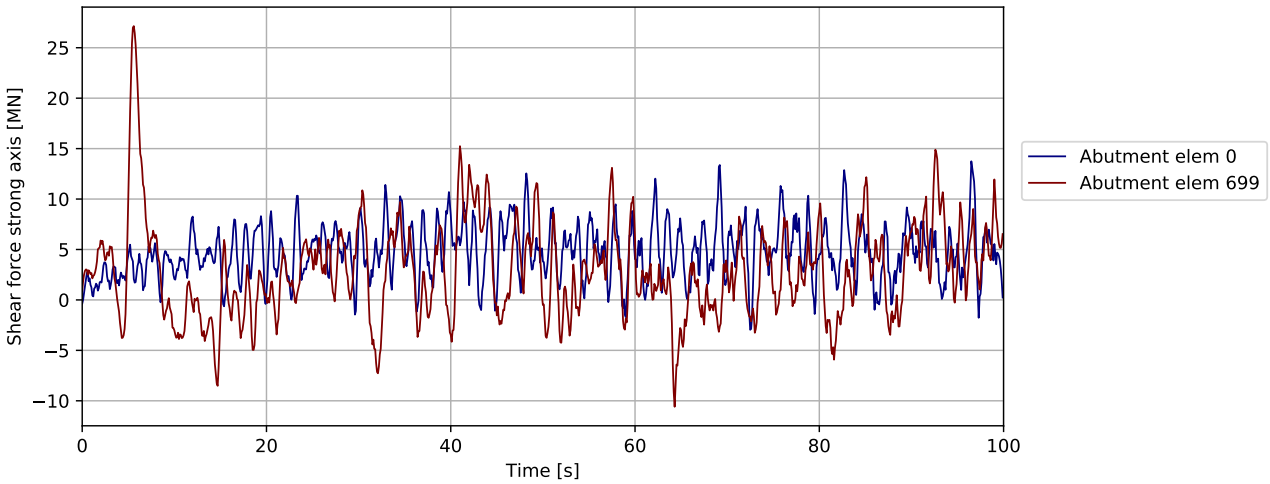

Figure 3.1511: P A30 180deg - bridgegirder @abutments: Shear force strong axis [MN]

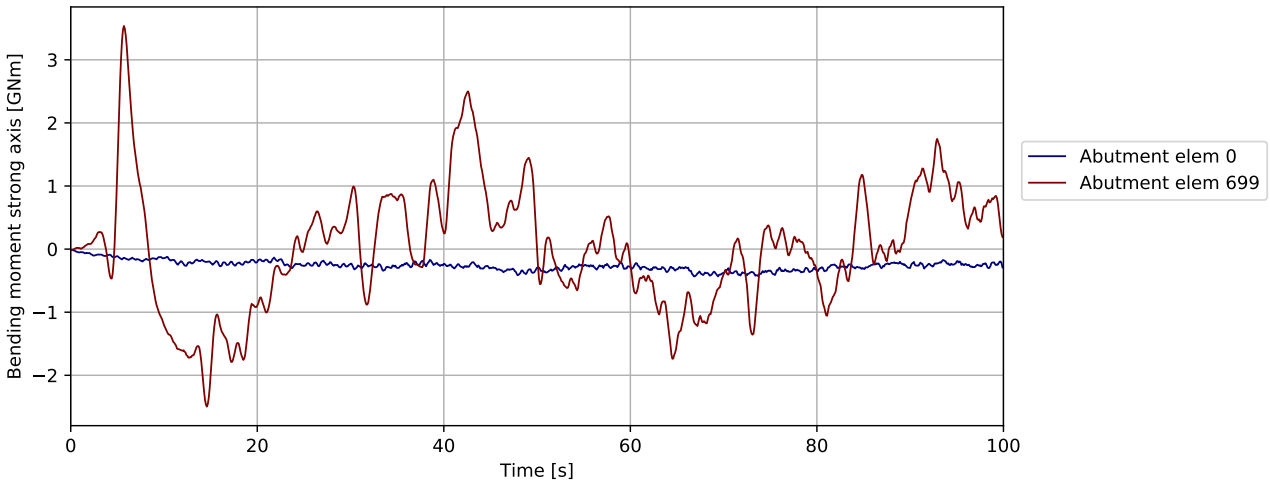

Figure 3.1512: P A30 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

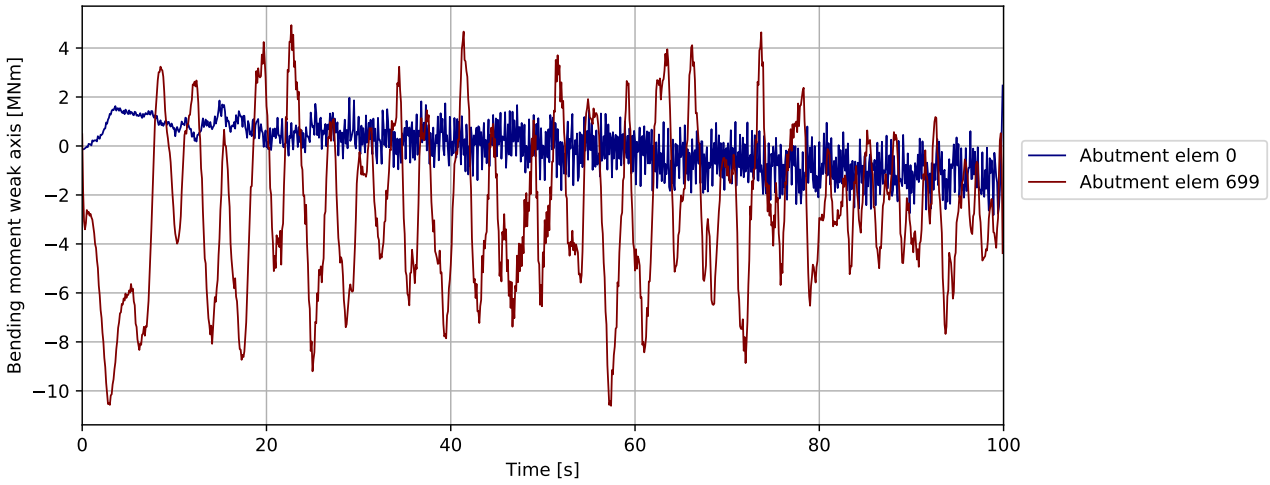

Figure 3.1513: P A30 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

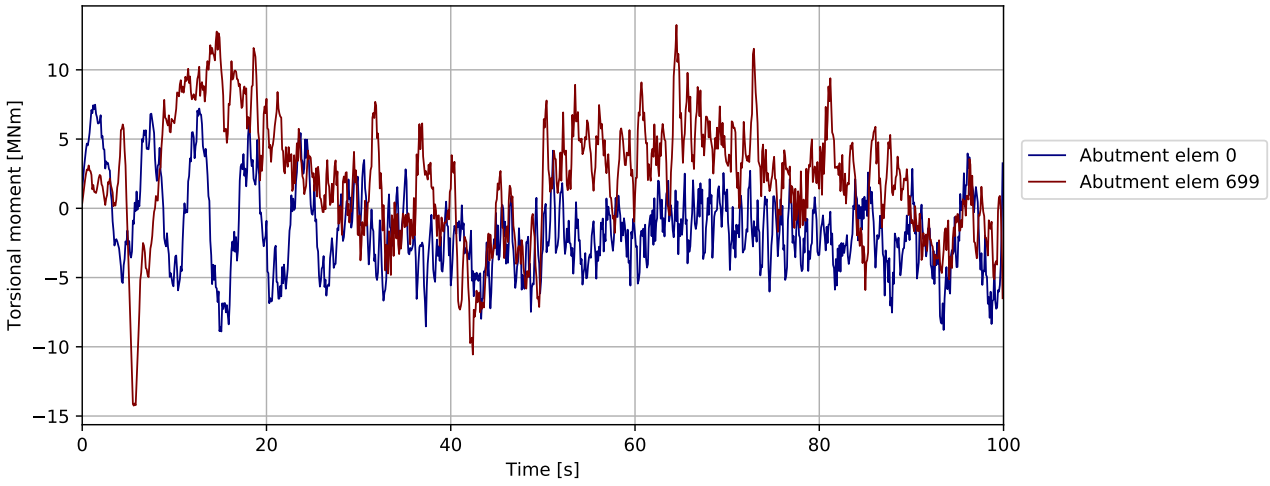

Figure 3.1514: P A30 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

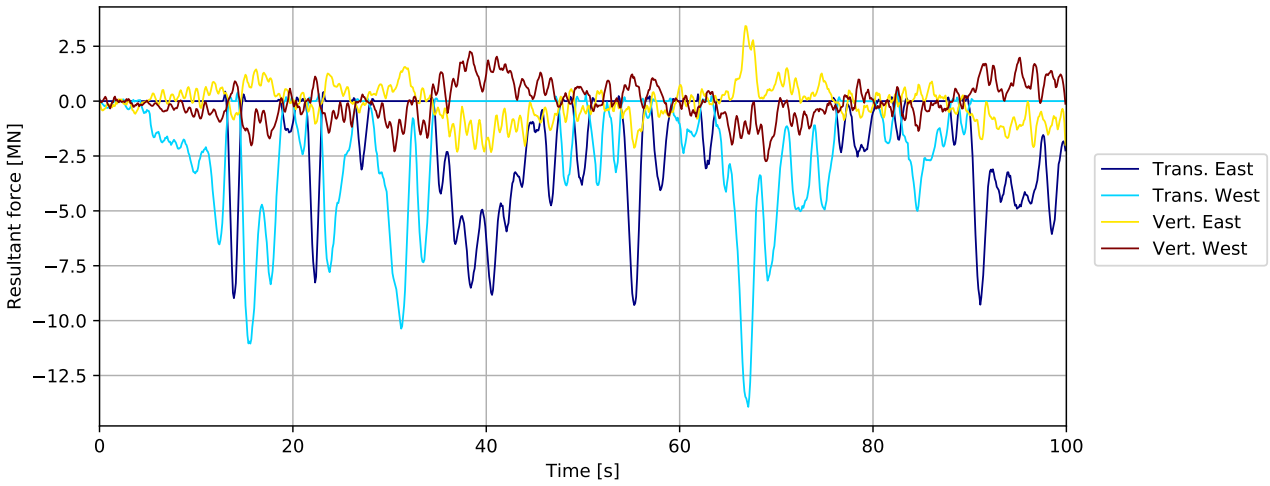

Figure 3.1515: P A30 180deg - bridgegirder supports in tower: Resultant force [MN]

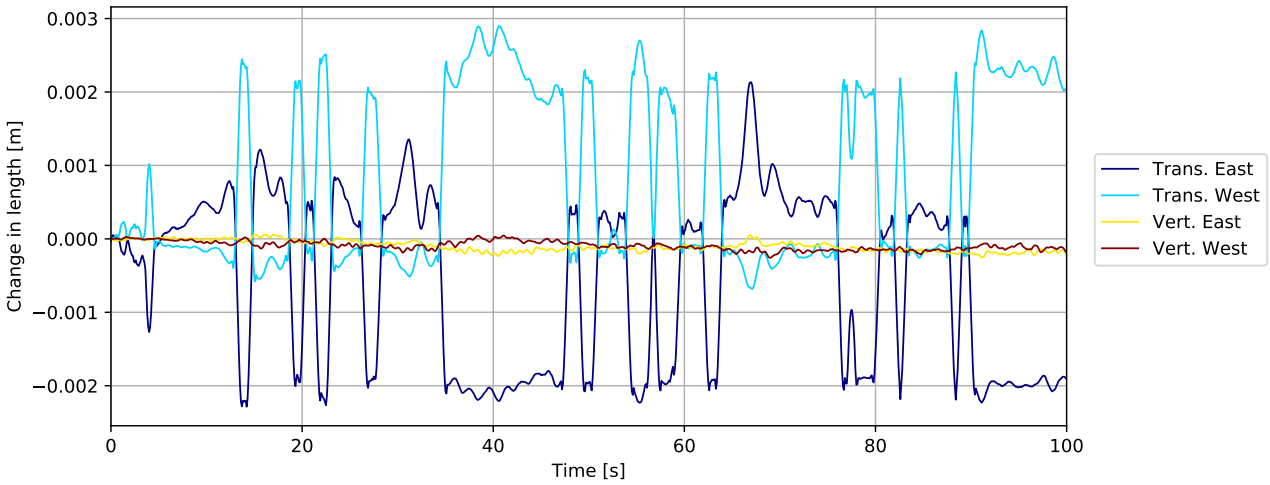

Figure 3.1516: P A30 180deg - bridgegirder supports in tower: Change in length [m]

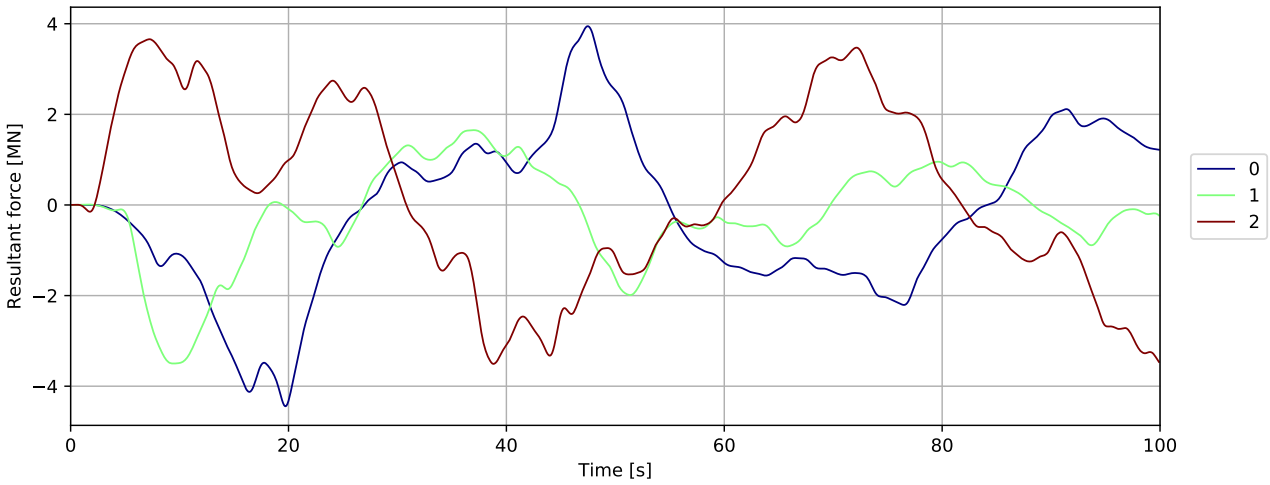

Figure 3.1517: Mooring force

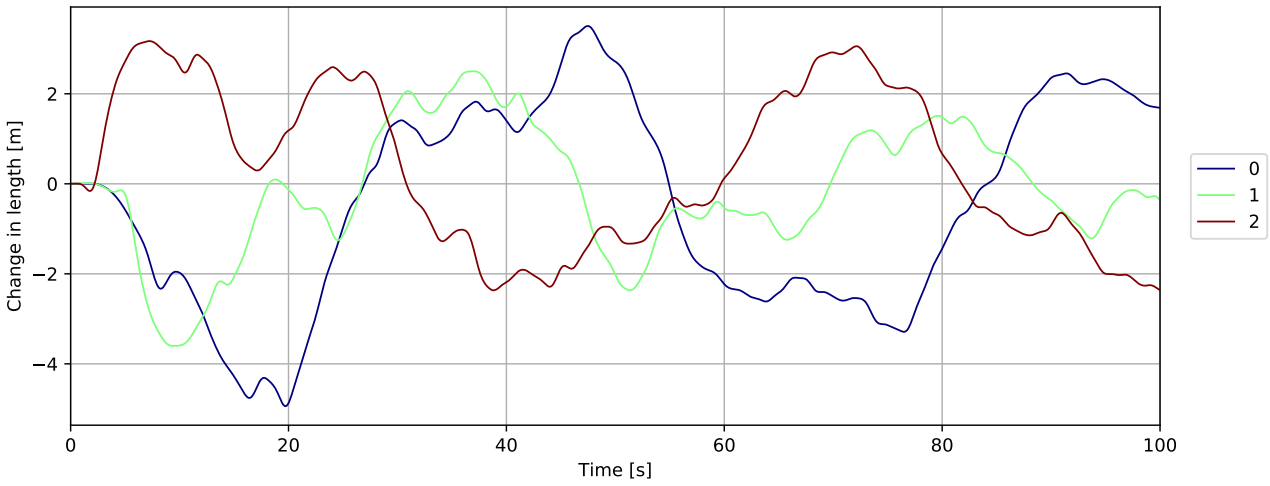

Figure 3.1518: Mooring displacement

3.34 PontoonA38 180deg

3.34.1 Overall response

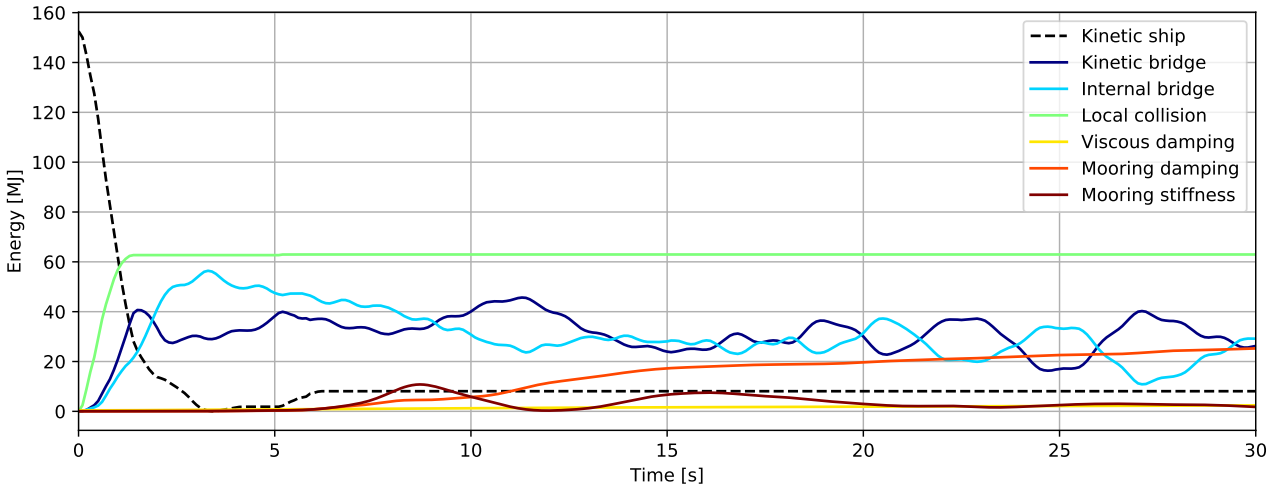

Figure 3.1519: Energy [MJ] - initial phase

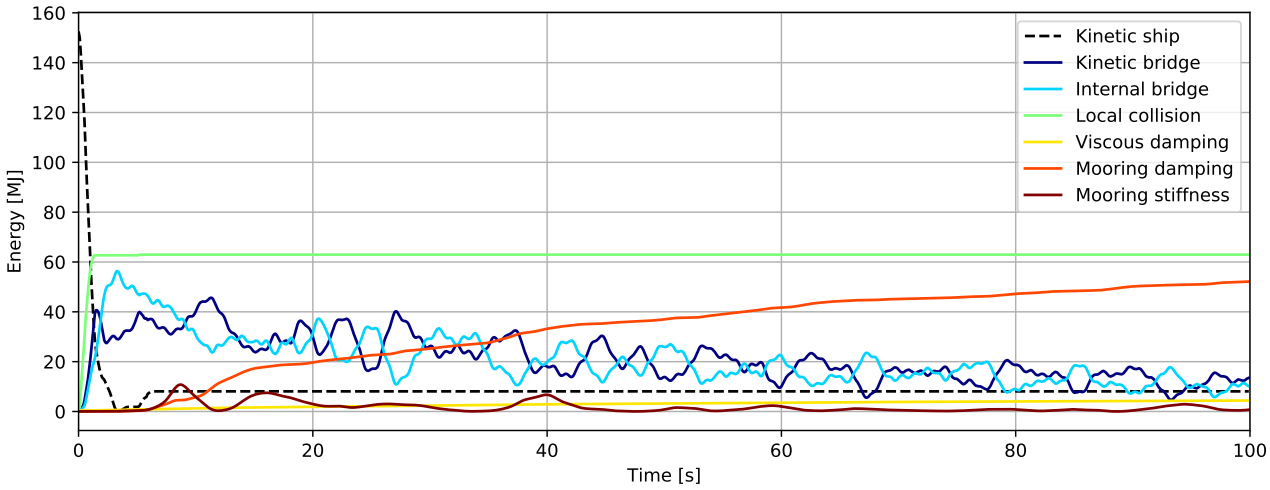

Figure 3.1520: Energy [MJ]

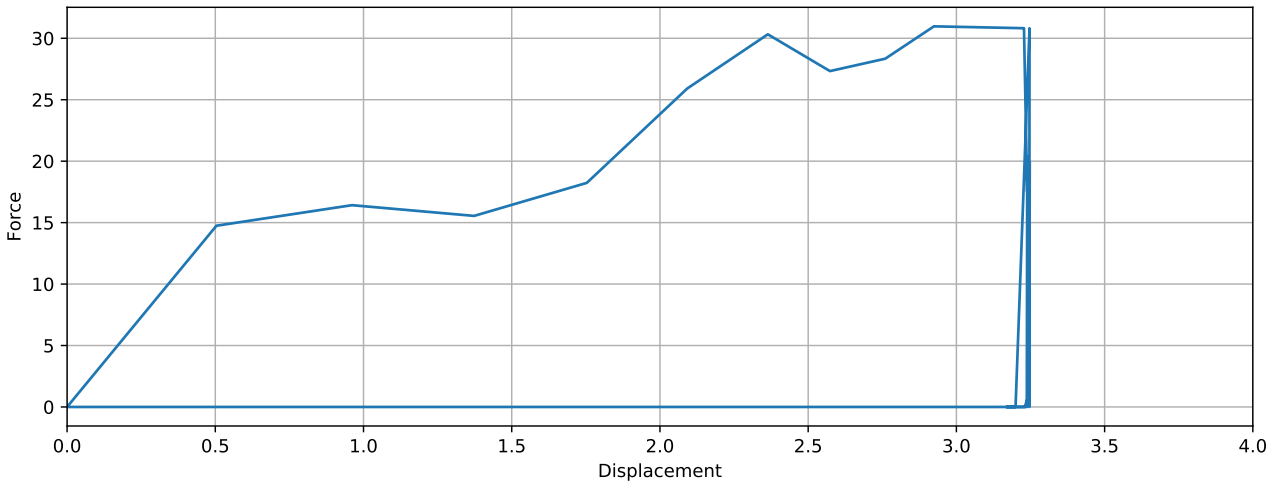

Figure 3.1521: Simulated local collision force-displacement

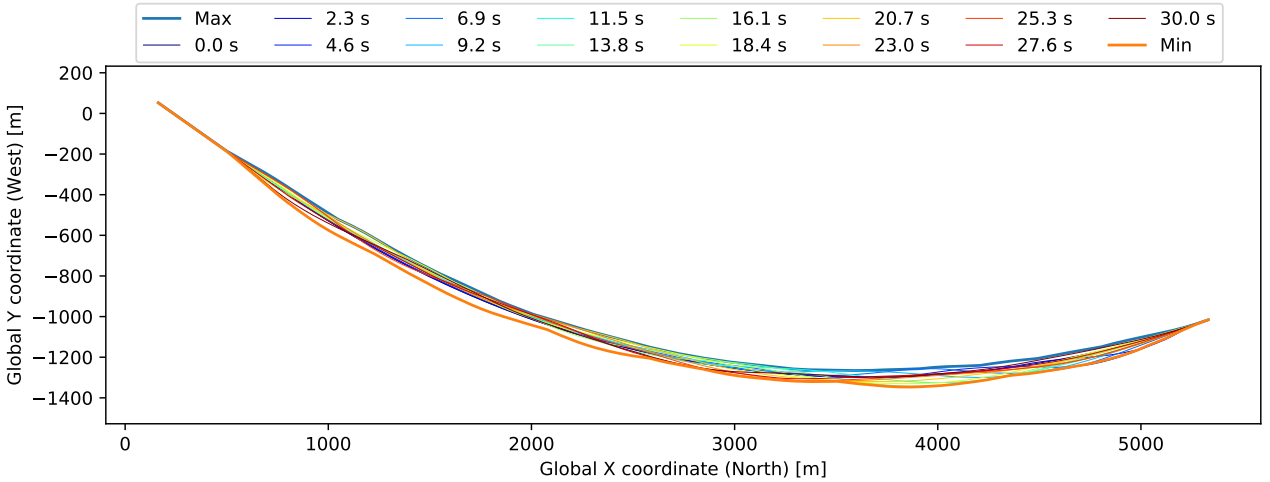

Figure 3.1522: Bridgegirder deflection (10x displacment scaling)

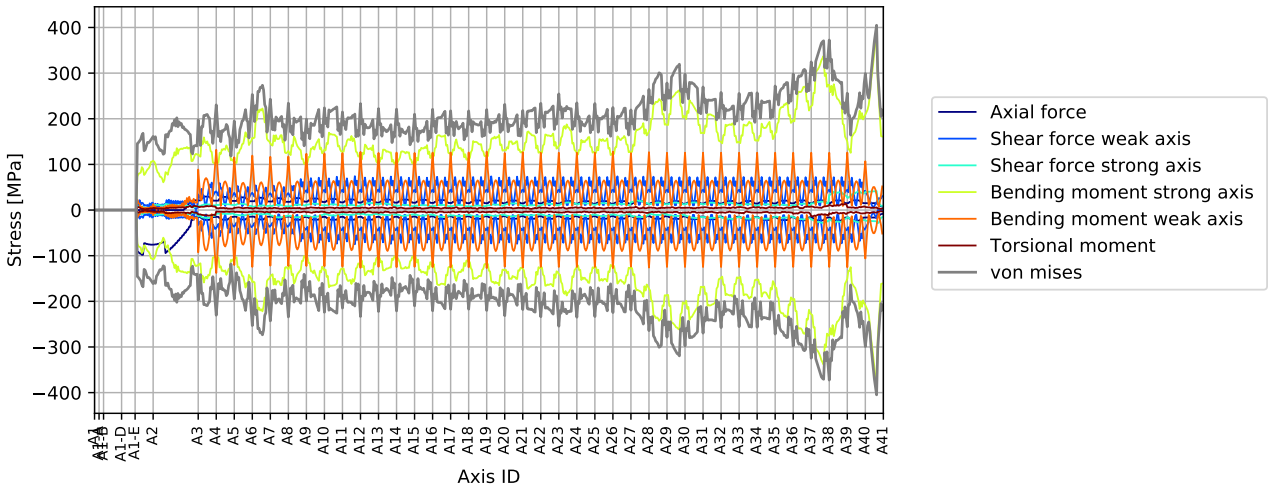

Figure 3.1523: Stress envelope from all force components

3.34.2 Envelope plots

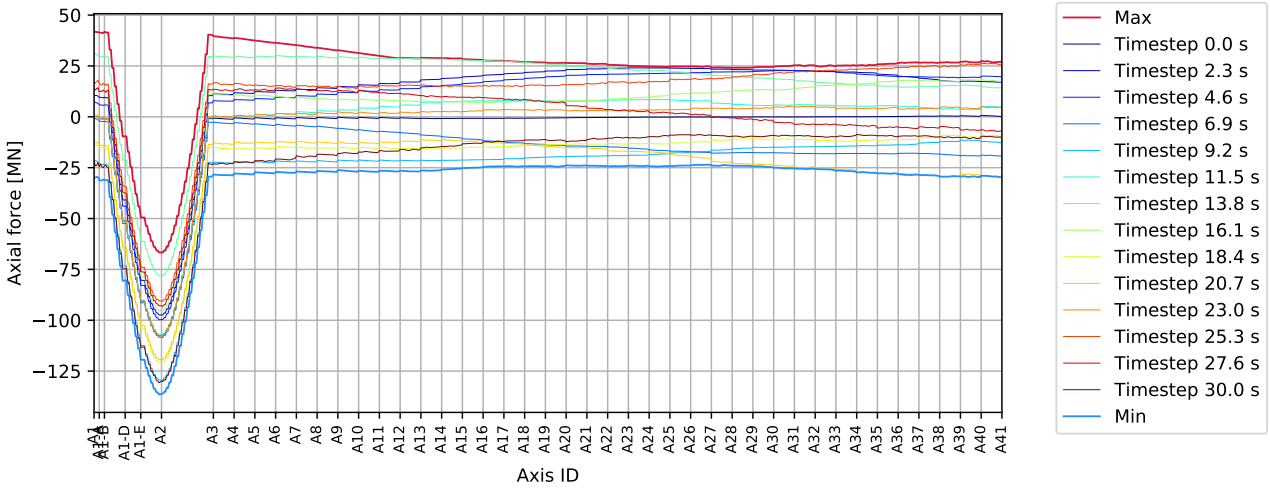

Figure 3.1524: P A38 180deg - bridgegirder : Axial force [MN]

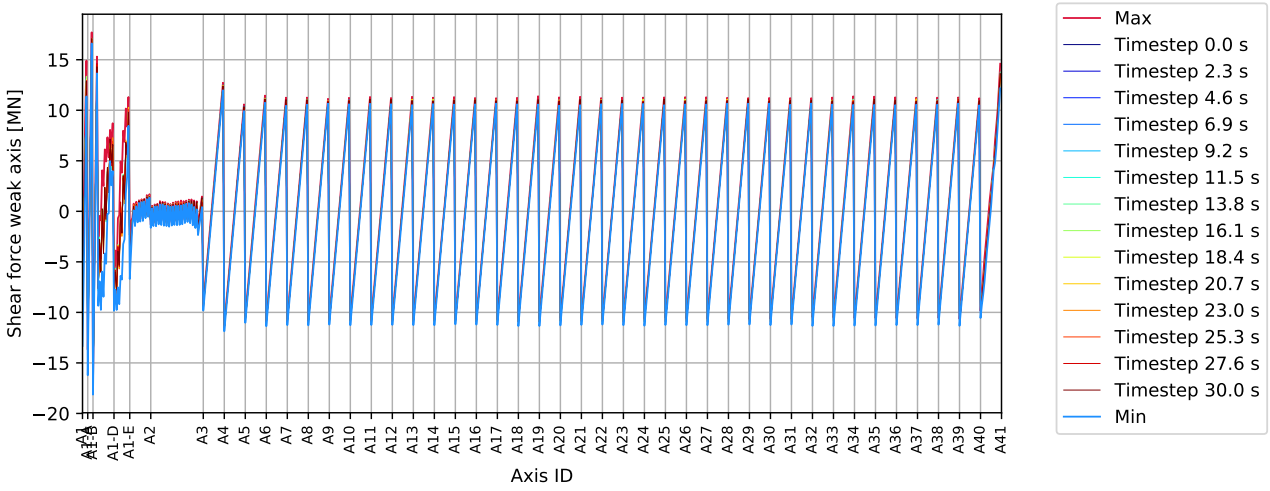

Figure 3.1525: P A38 180deg - bridgegirder : Shear force weak axis [MN]

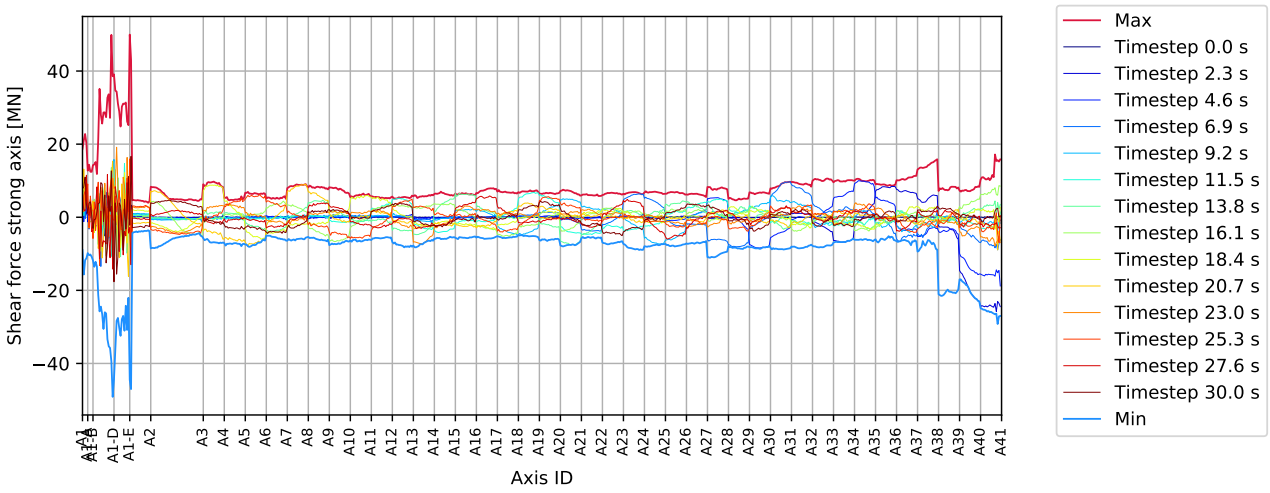

Figure 3.1526: P A38 180deg - bridgegirder : Shear force strong axis [MN]

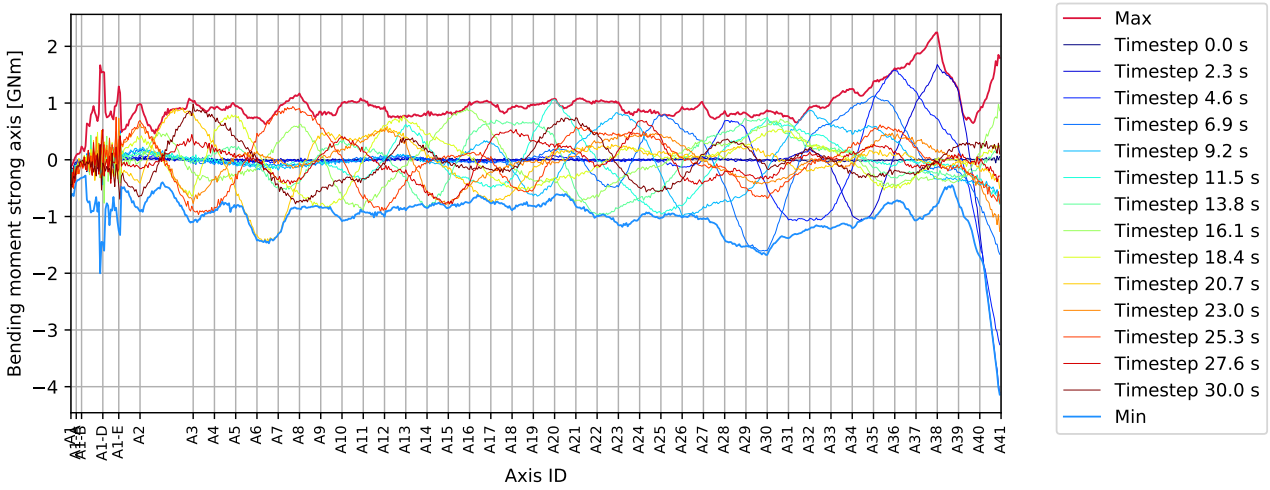

Figure 3.1527: P A38 180deg - bridgegirder : Bending moment strong axis [GNm]

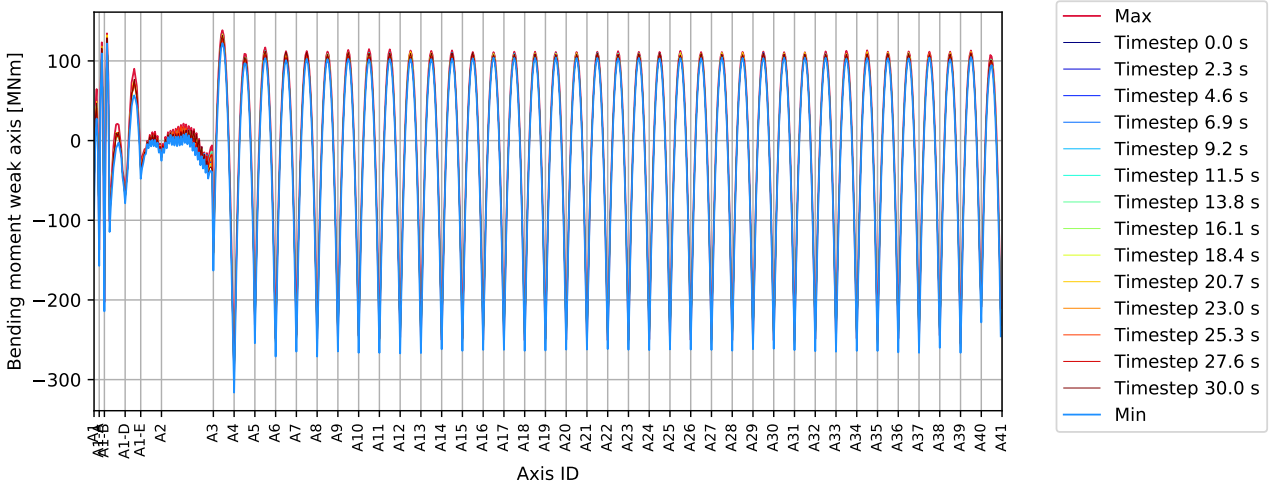

Figure 3.1528: P A38 180deg - bridgegirder : Bending moment weak axis [MNm]

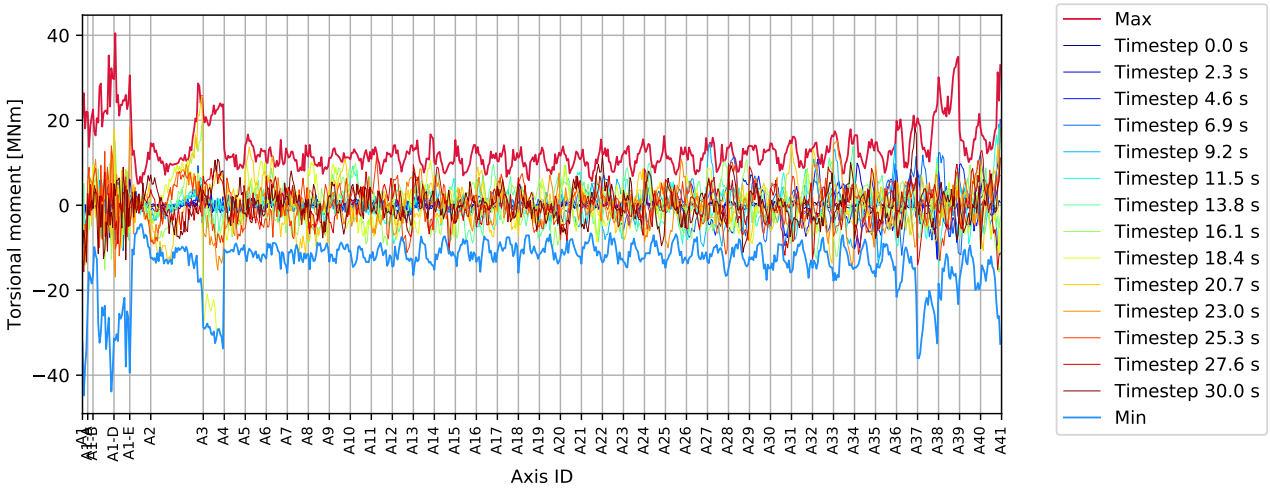

Figure 3.1529: P A38 180deg - bridgegirder : Torsional moment [MNm]

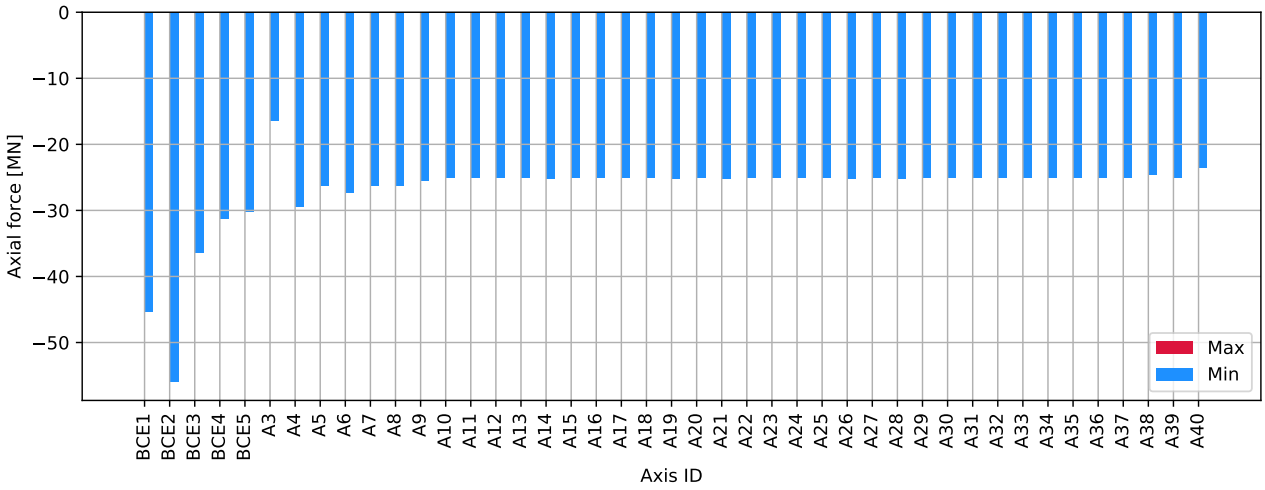

Figure 3.1530: P A38 180deg - columns bottom : Axial force [MN]

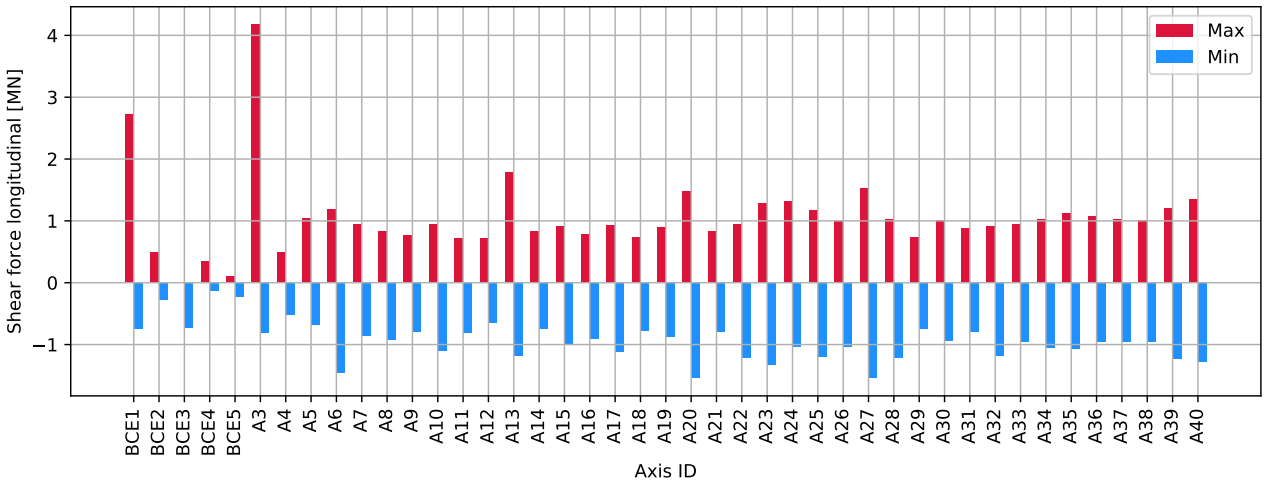

Figure 3.1531: P A38 180deg - columns bottom : Shear force longitudinal [MN]

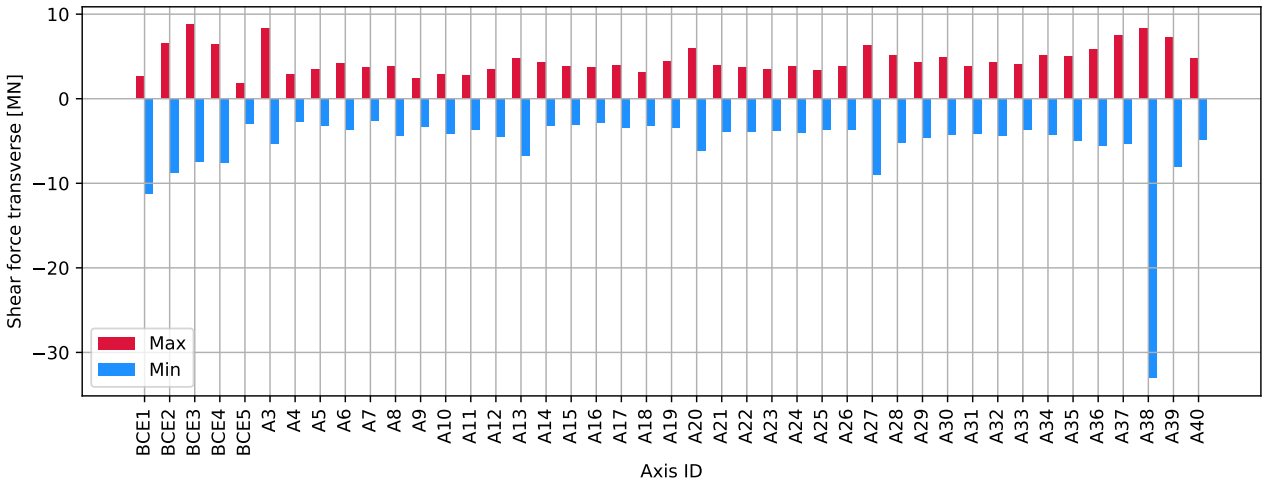

Figure 3.1532: P A38 180deg - columns bottom : Shear force transverse [MN]

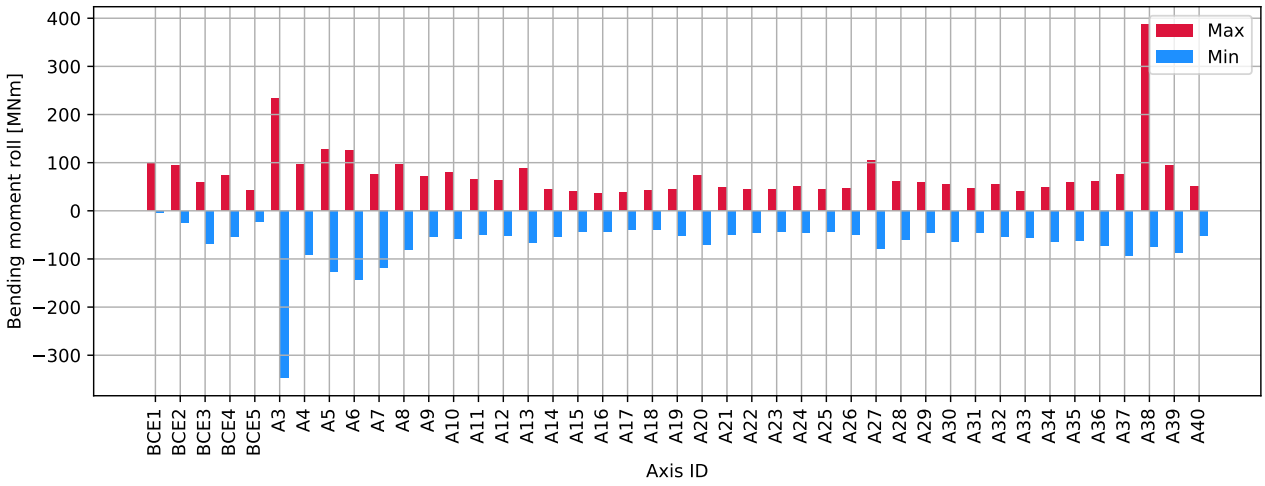

Figure 3.1533: P A38 180deg - columns bottom : Bending moment roll [MNm]

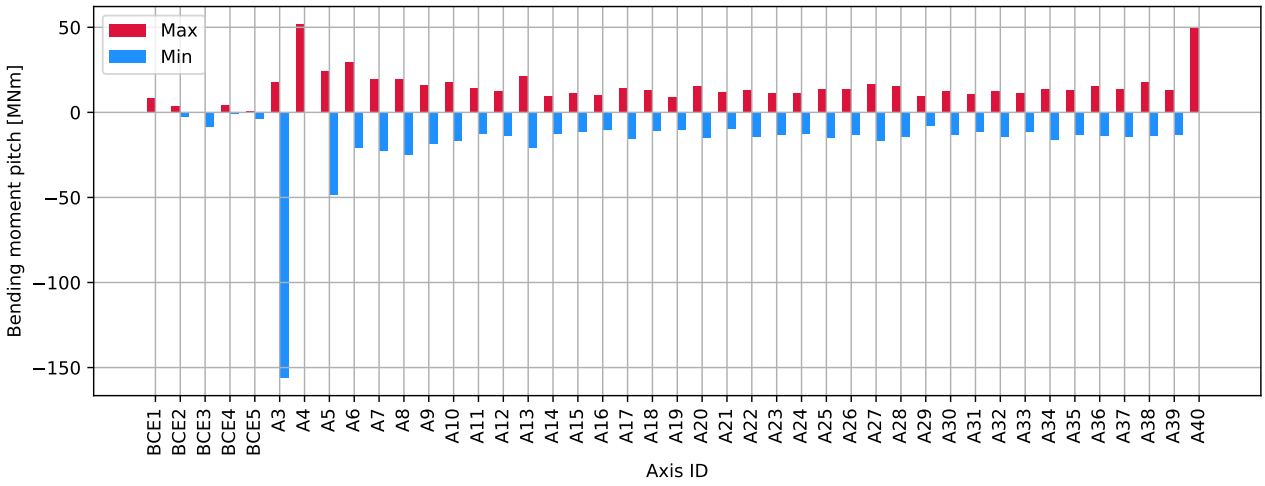

Figure 3.1534: P A38 180deg - columns bottom : Bending moment pitch [MNm]

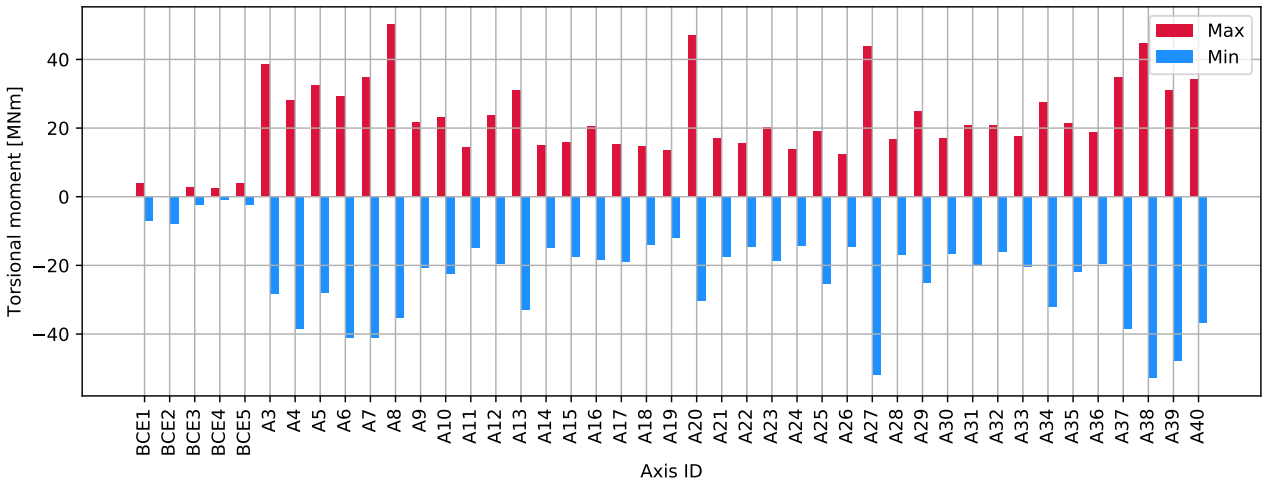

Figure 3.1535: P A38 180deg - columns bottom : Torsional moment [MNm]

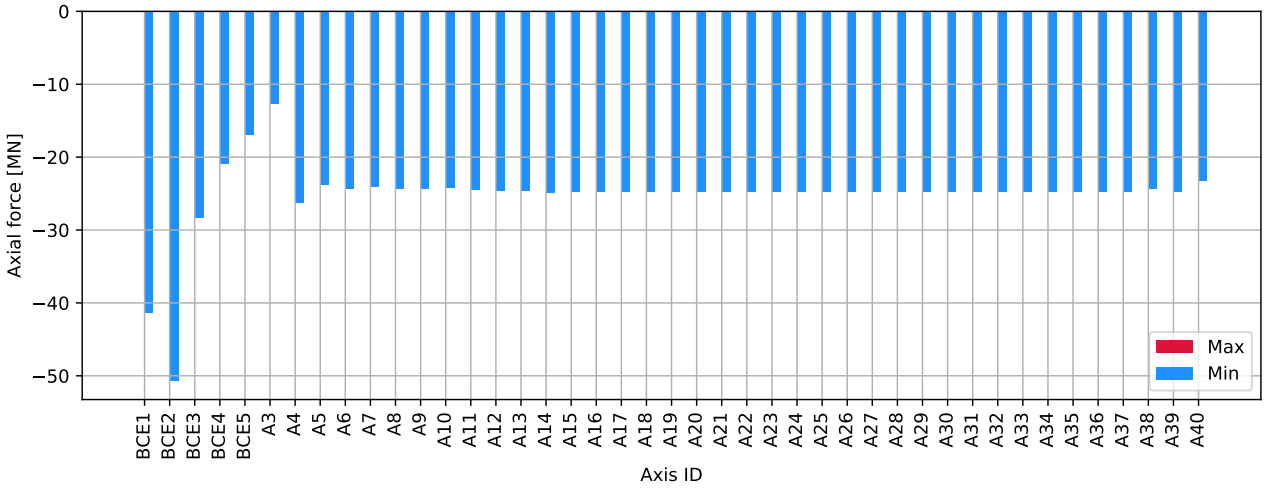

Figure 3.1536: P A38 180deg - columns top : Axial force [MN]

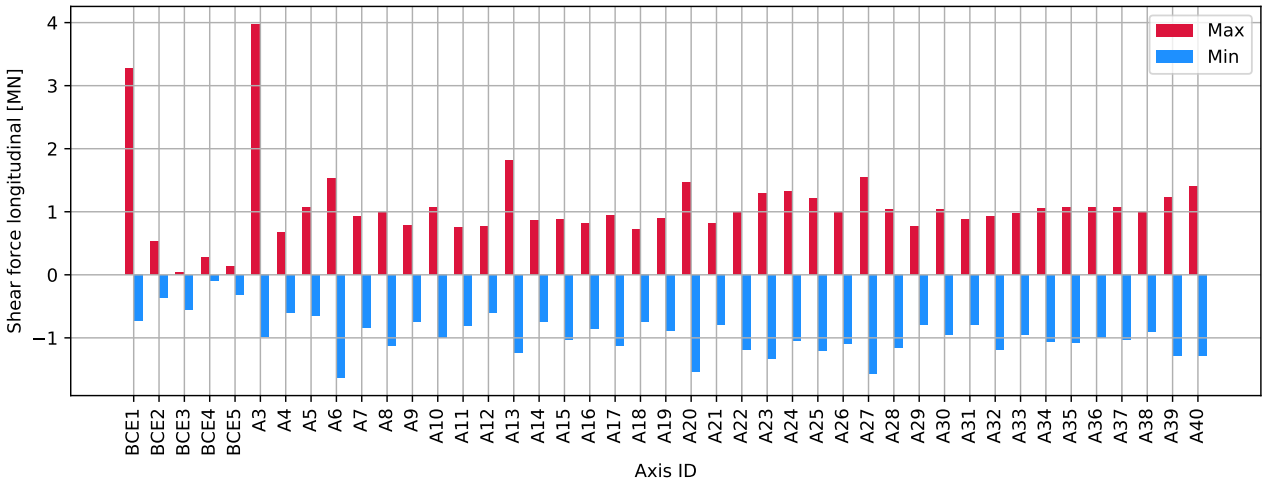

Figure 3.1537: P A38 180deg - columns top : Shear force longitudinal [MN]

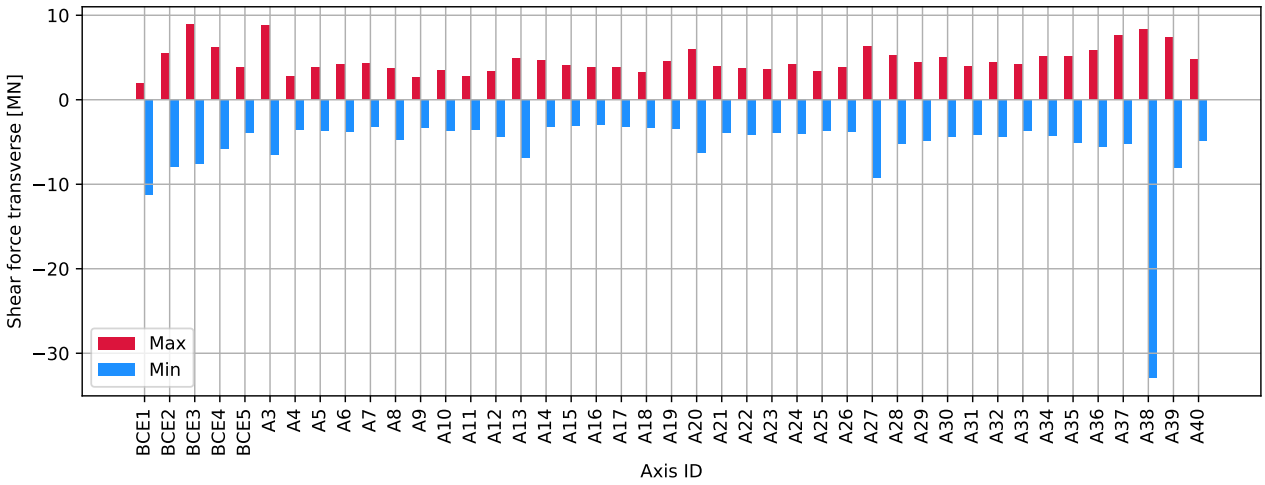

Figure 3.1538: P A38 180deg - columns top : Shear force transverse [MN]

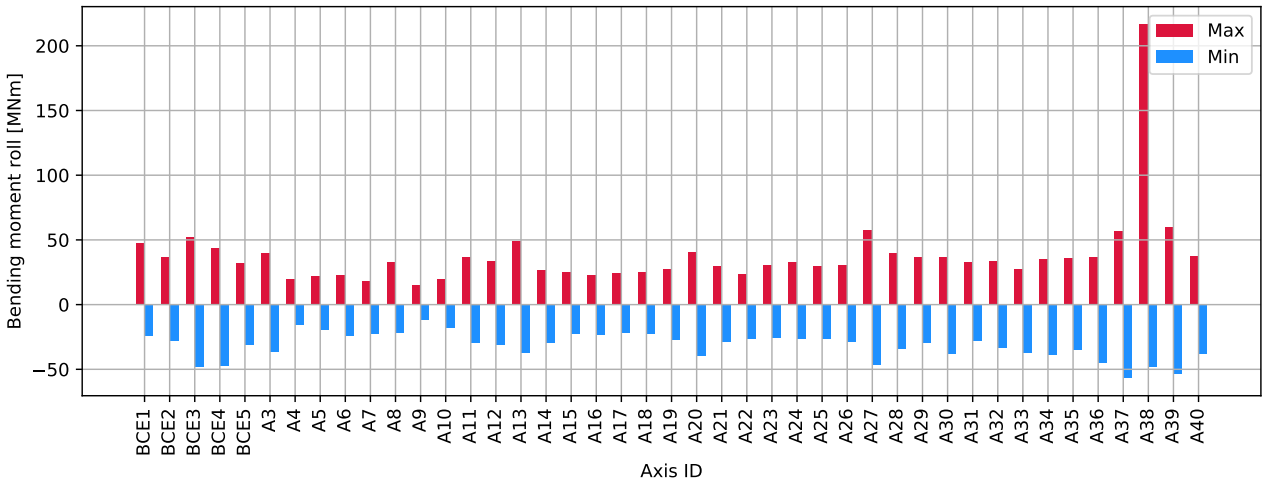

Figure 3.1539: P A38 180deg - columns top : Bending moment roll [MNm]

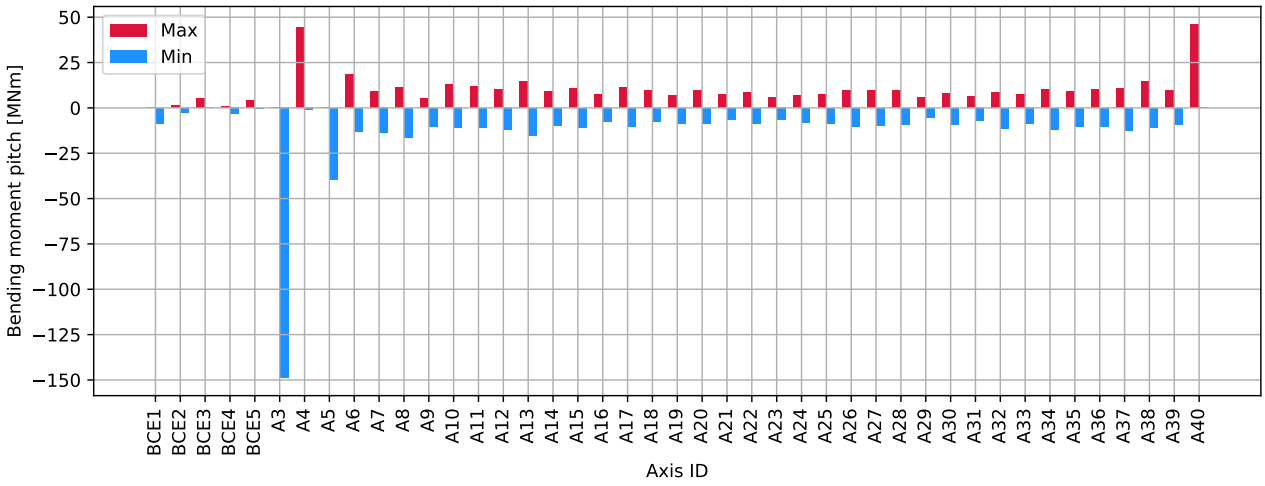

Figure 3.1540: P A38 180deg - columns top : Bending moment pitch [MNm]

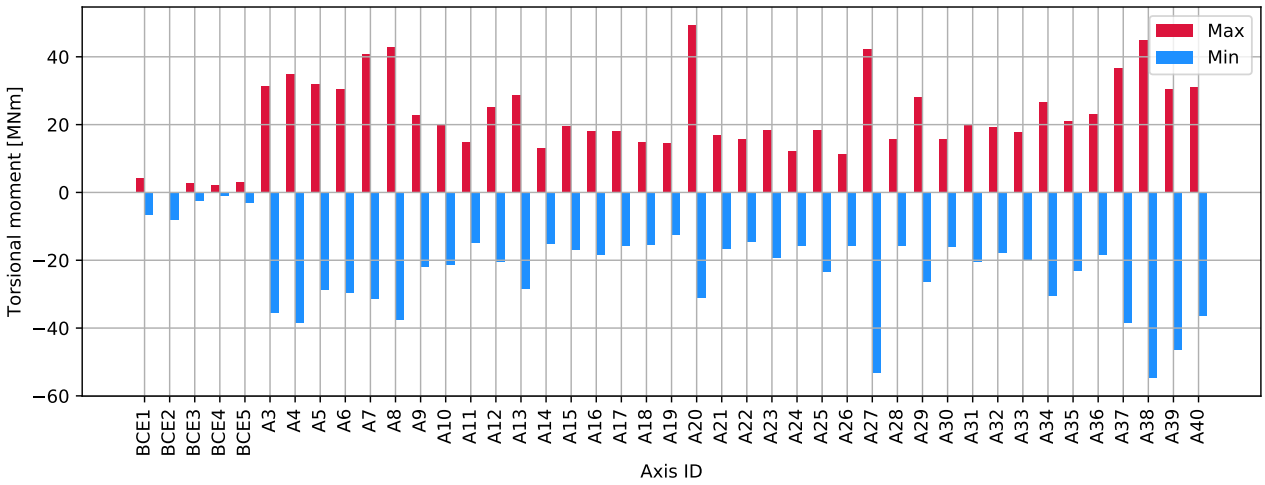

Figure 3.1541: P A38 180deg - columns top : Torsional moment [MNm]

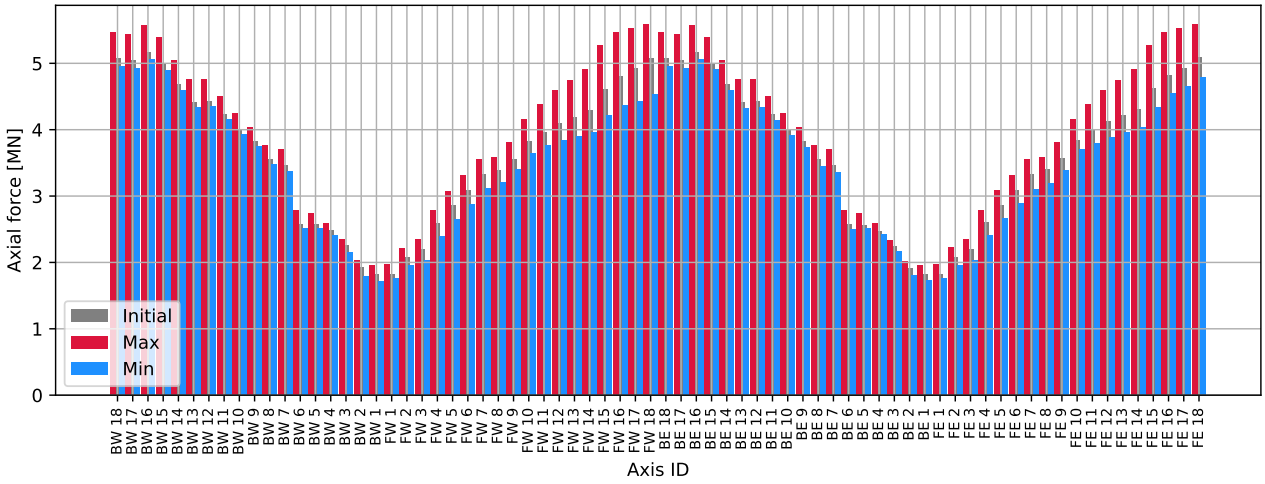

Figure 3.1542: P A38 180deg - cables : Axial force [MN]

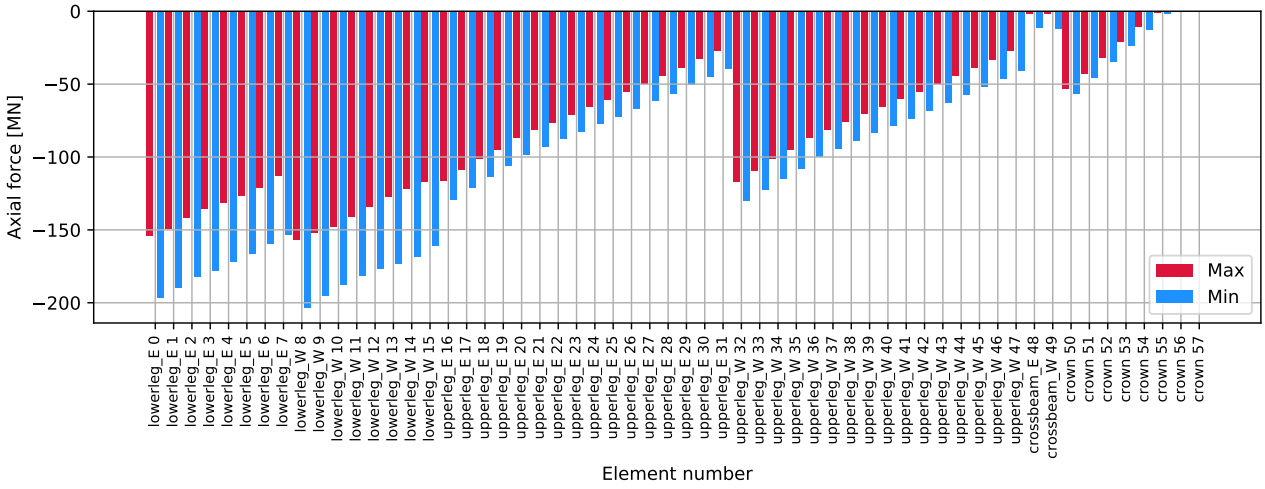

Figure 3.1543: P A38 180deg - tower: Axial force [MN]

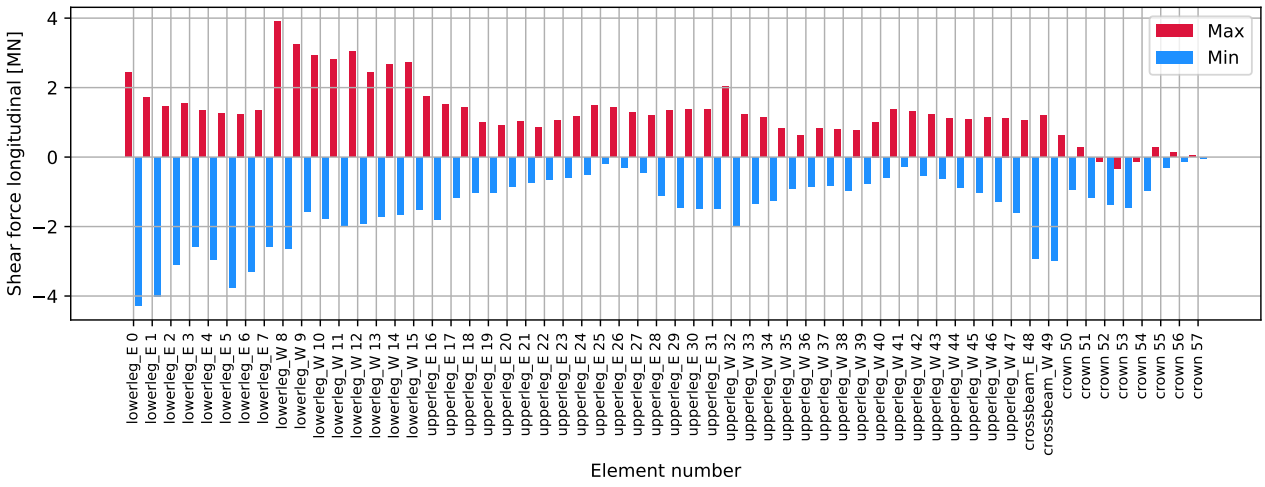

Figure 3.1544: P A38 180deg - tower: Shear force longitudinal [MN]

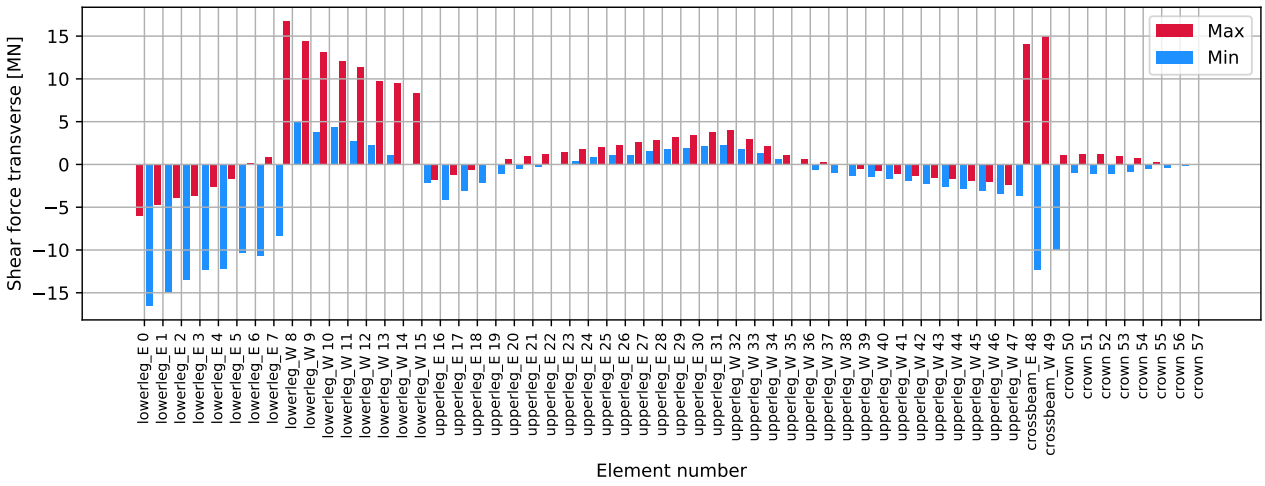

Figure 3.1545: P A38 180deg - tower: Shear force transverse [MN]

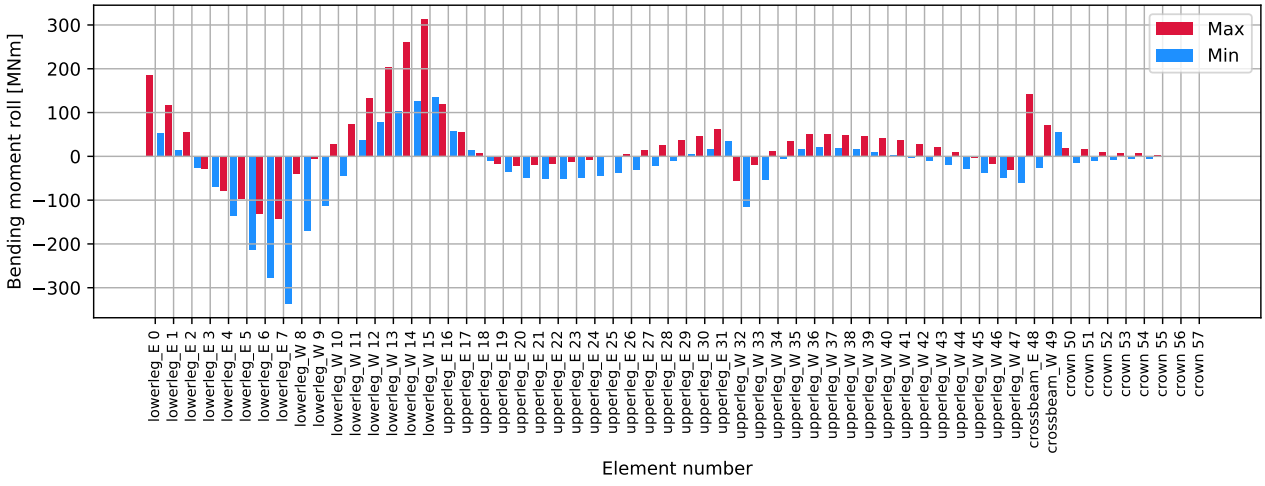

Figure 3.1546: P A38 180deg - tower: Bending moment roll [MNm]

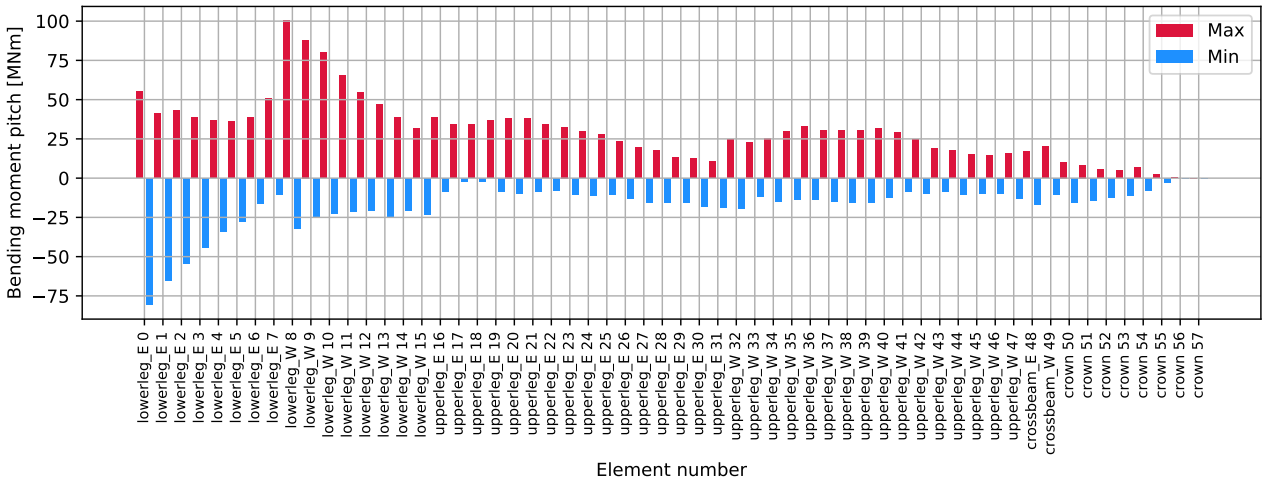

Figure 3.1547: P A38 180deg - tower: Bending moment pitch [MNm]

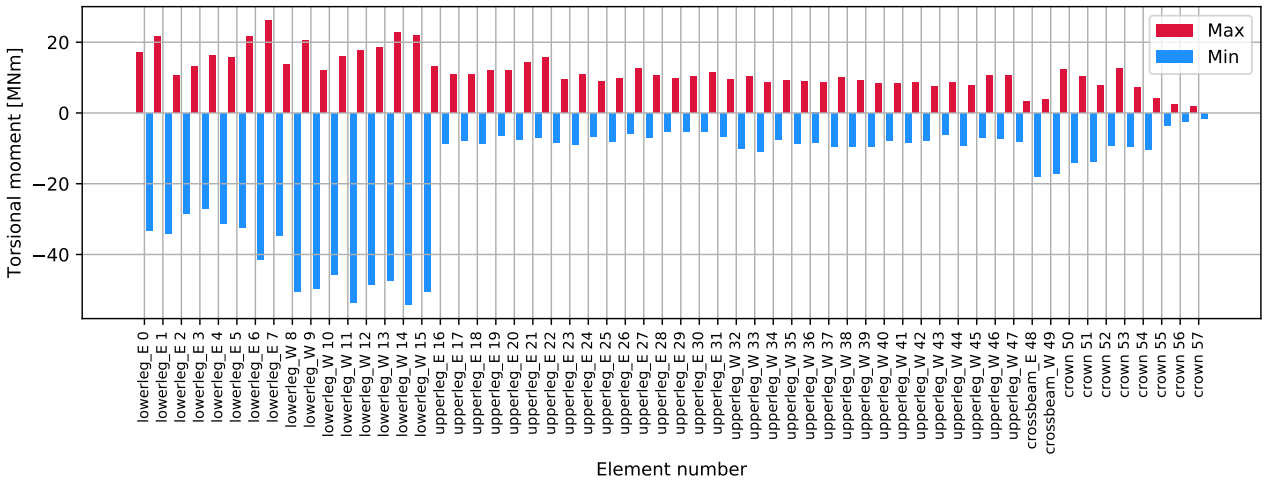

Figure 3.1548: P A38 180deg - tower: Torsional moment [MNm]

3.34.3 Time series

Note : Time series are filtered using a Saviotzky-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

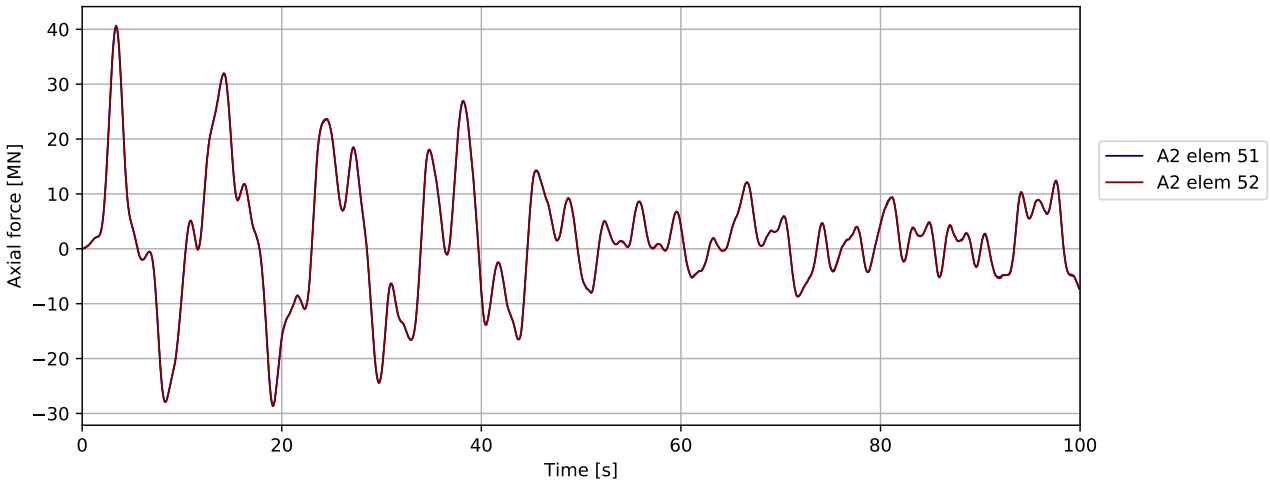

Figure 3.1549: P A38 180deg - bridgegirder @ pylon: Axial force [MN]

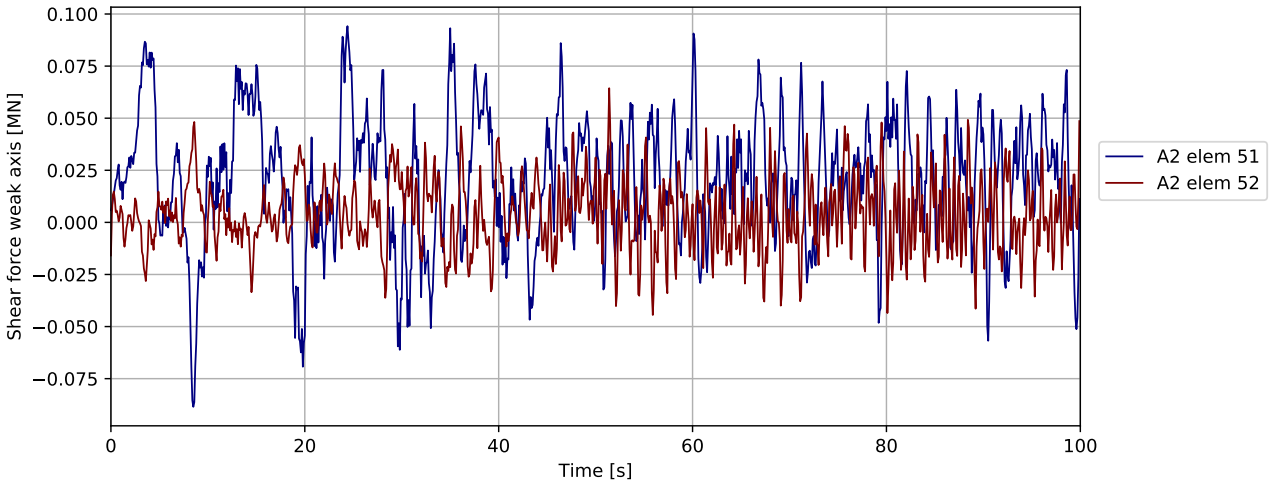

Figure 3.1550: P A38 180deg - bridgegirder @ pylon: Shear force weak axis [MN]

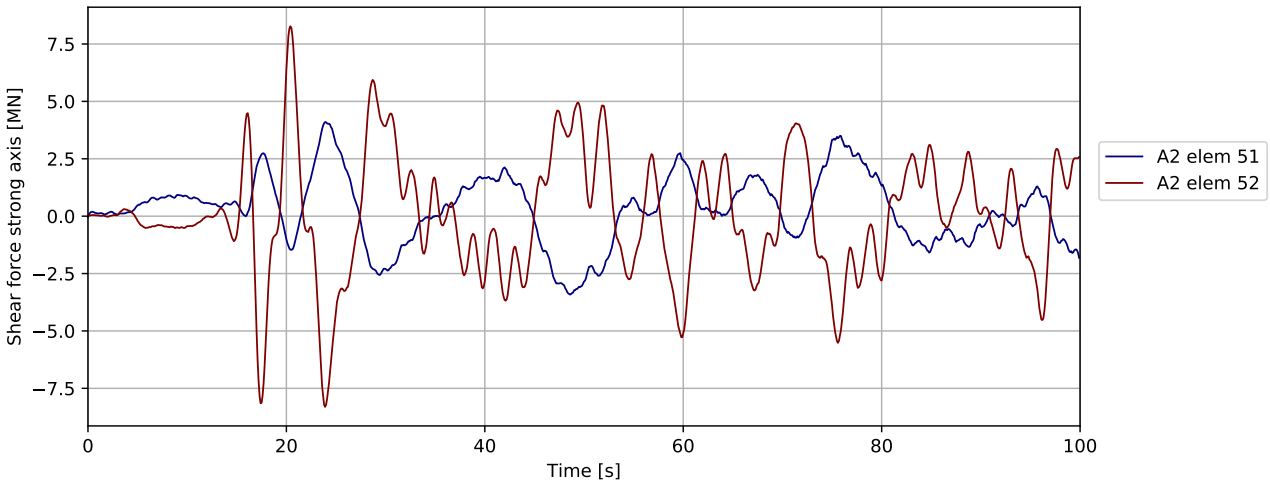

Figure 3.1551: P A38 180deg - bridgegirder @ pylon: Shear force strong axis [MN]

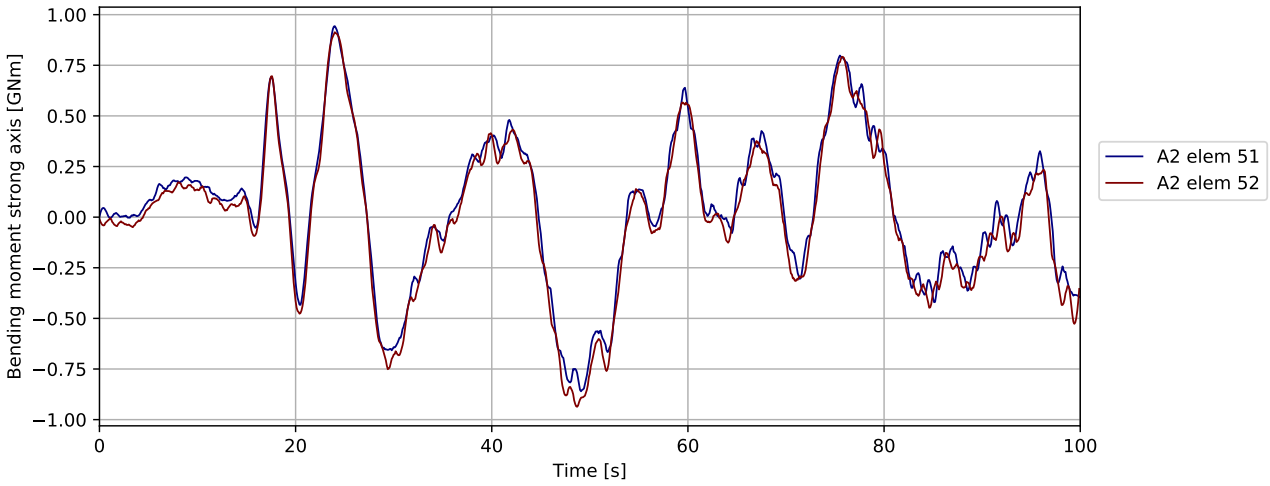

Figure 3.1552: P A38 180deg - bridgegirder @ pylon: Bending moment strong axis [GNm]

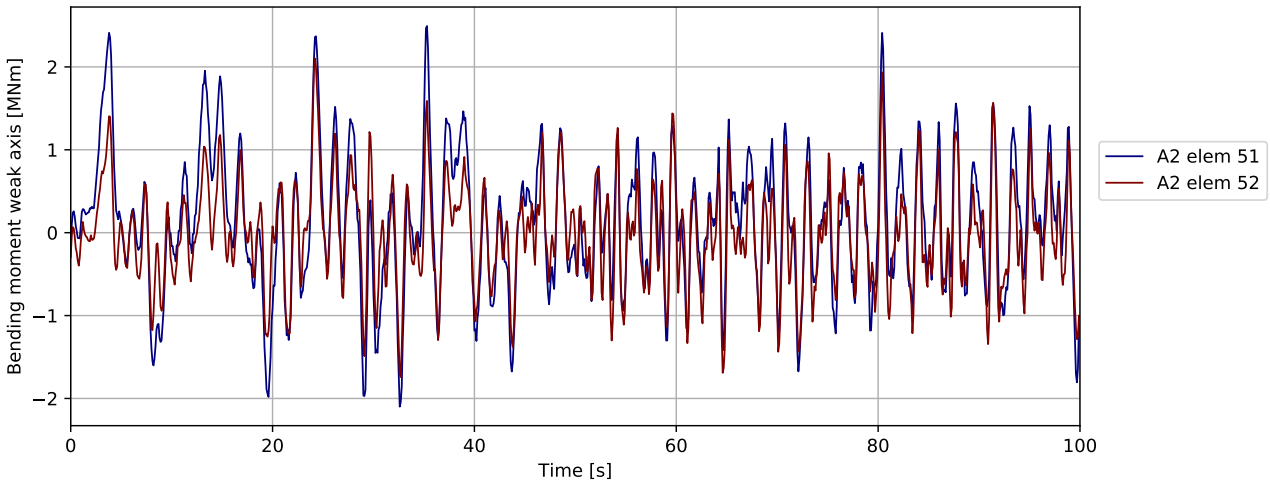

Figure 3.1553: P A38 180deg - bridgegirder @ pylon: Bending moment weak axis [MNm]

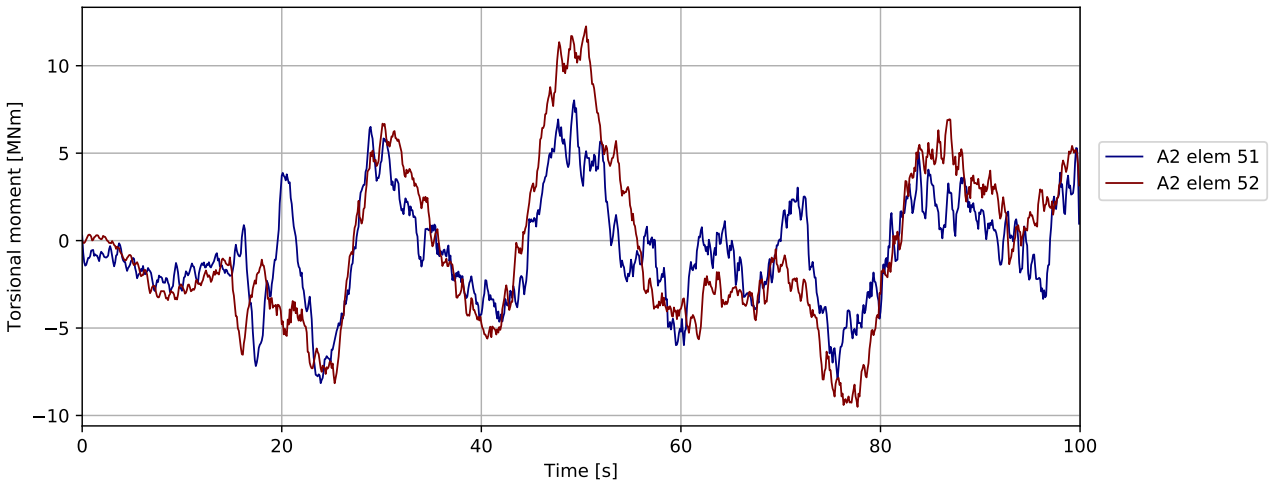

Figure 3.1554: P A38 180deg - bridgegirder @ pylon: Torsional moment [MNm]

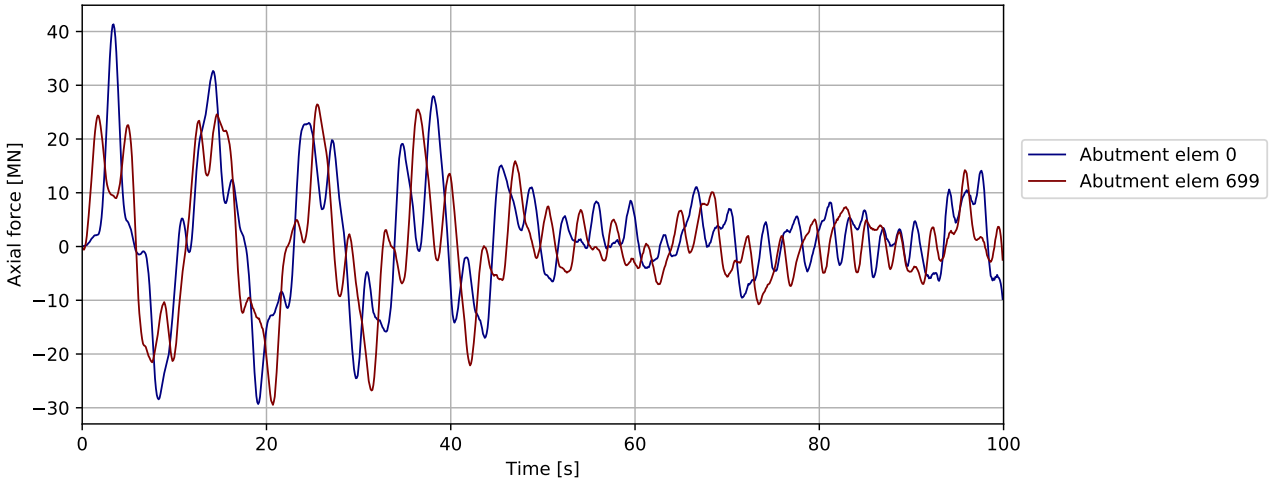

Figure 3.1555: P A38 180deg - bridgegirder @abutments: Axial force [MN]

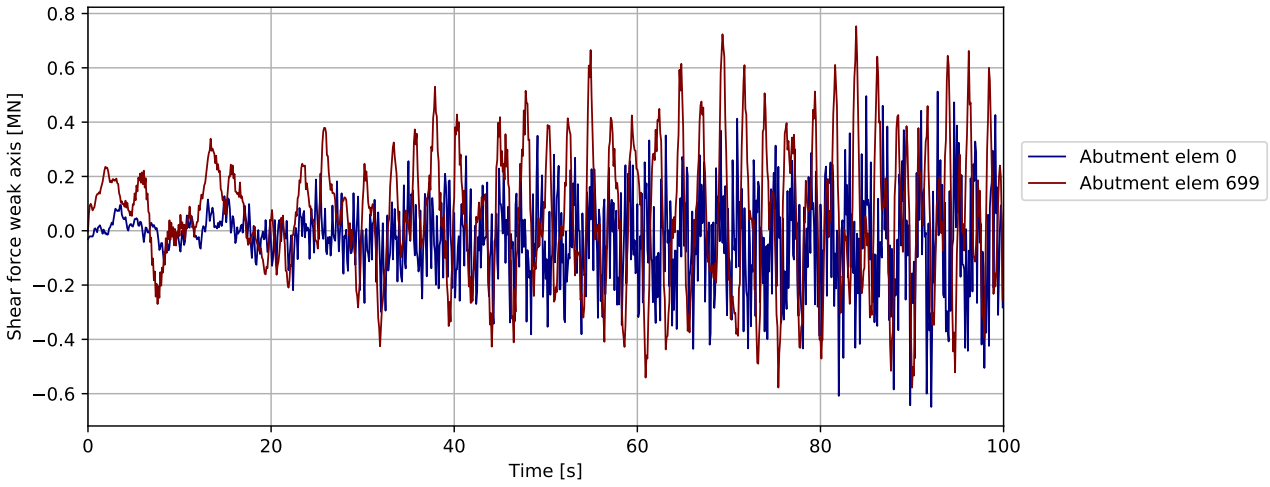

Figure 3.1556: P A38 180deg - bridgegirder @abutments: Shear force weak axis [MN]

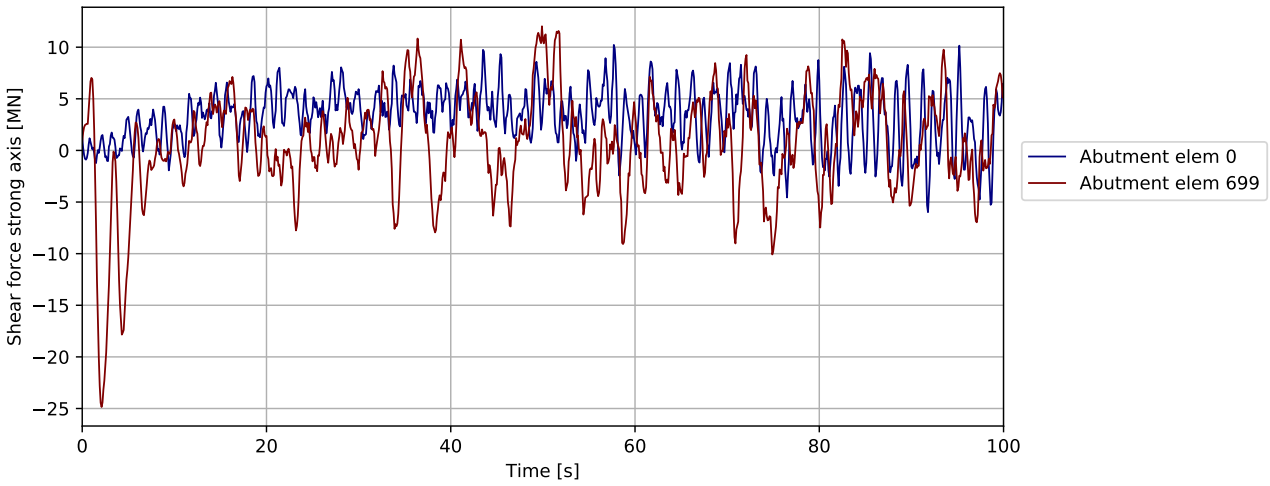

Figure 3.1557: P A38 180deg - bridgegirder @abutments: Shear force strong axis [MN]

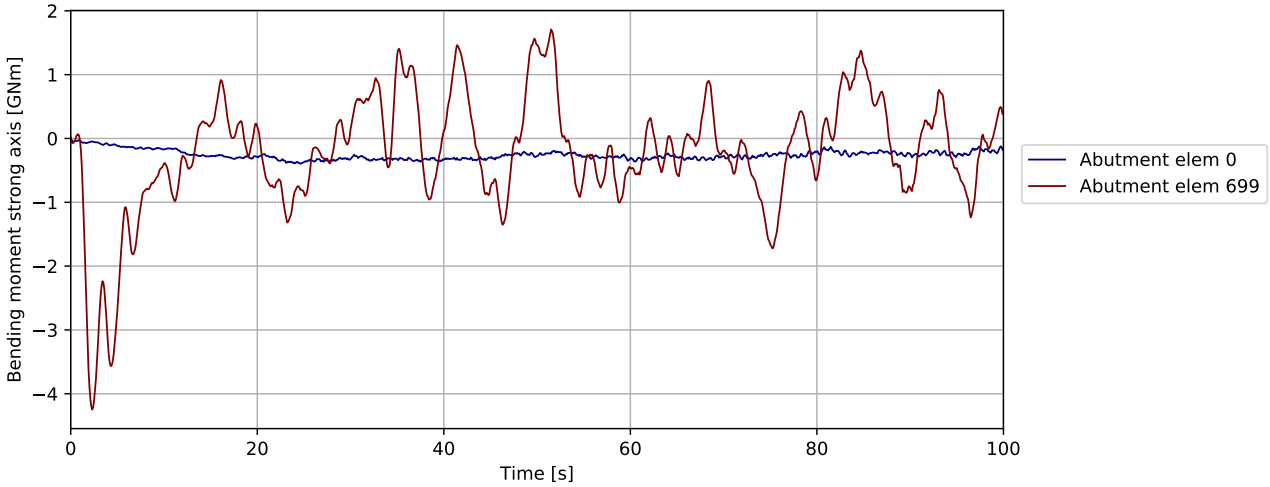

Figure 3.1558: P A38 180deg - bridgegirder @abutments: Bending moment strong axis [GNm]

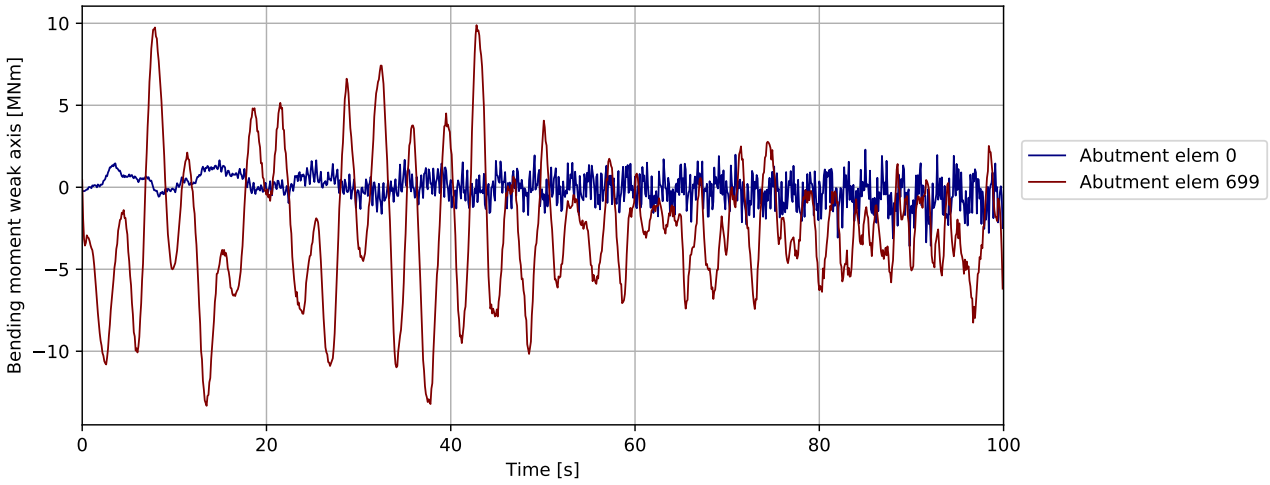

Figure 3.1559: P A38 180deg - bridgegirder @abutments: Bending moment weak axis [MNm]

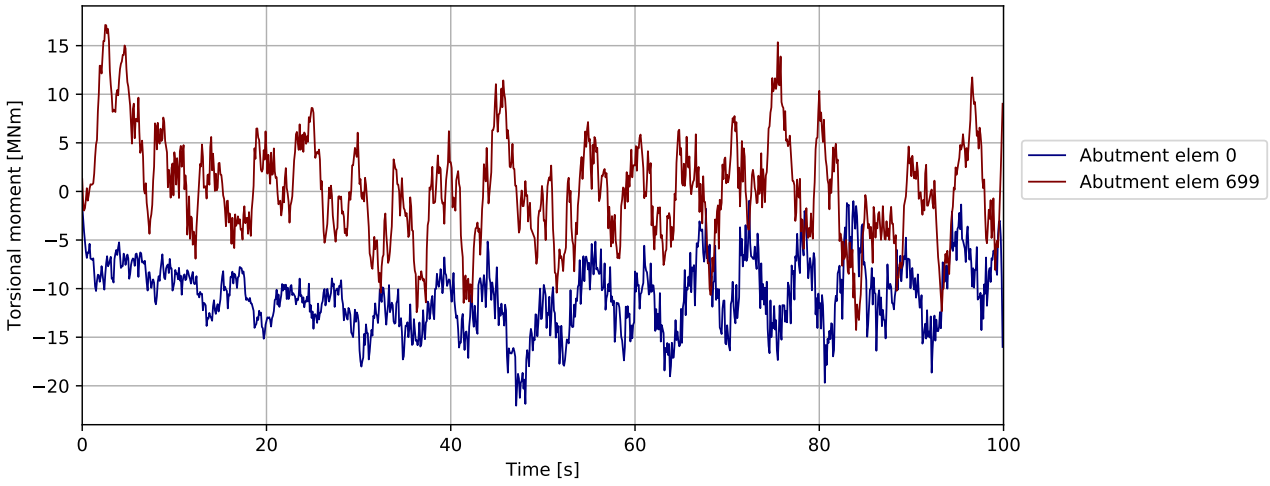

Figure 3.1560: P A38 180deg - bridgegirder @abutments: Torsional moment [MNm]

Note : Compressive spring force is negative

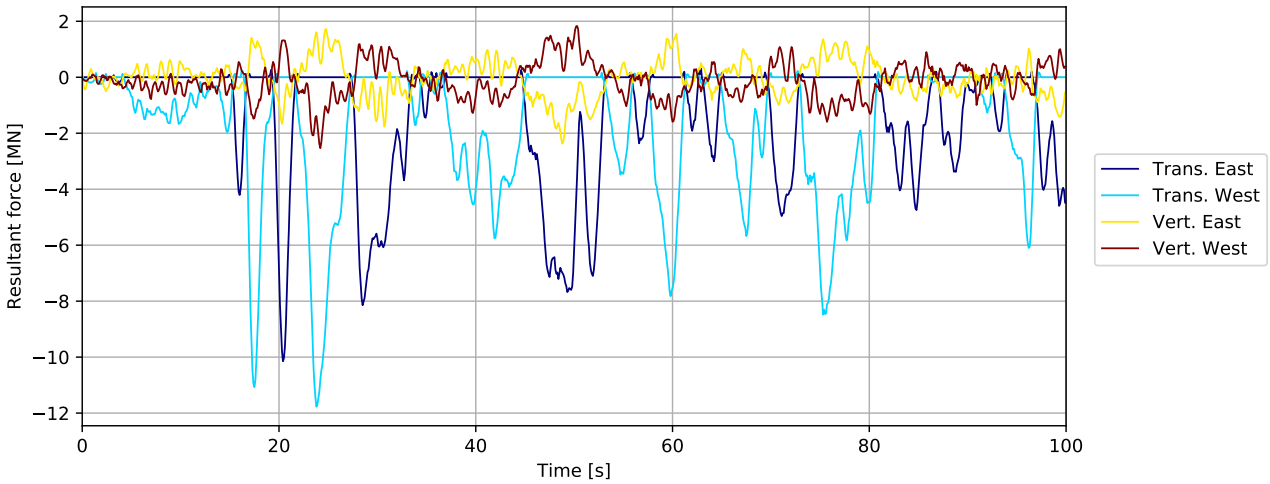

Figure 3.1561: P A38 180deg - bridgegirder supports in tower: Resultant force [MN]

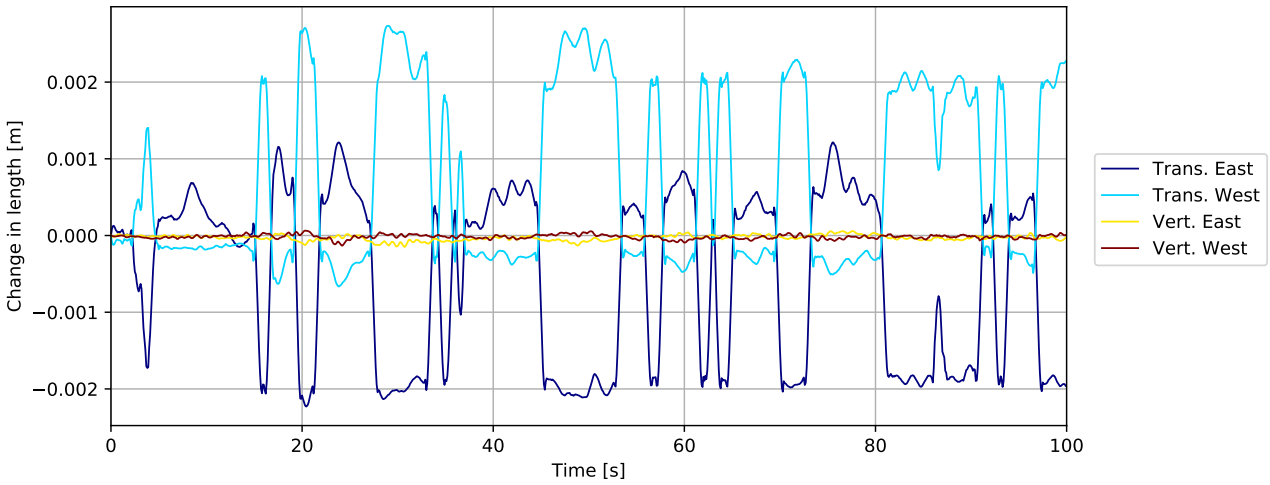

Figure 3.1562: P A38 180deg - bridgegirder supports in tower: Change in length [m]

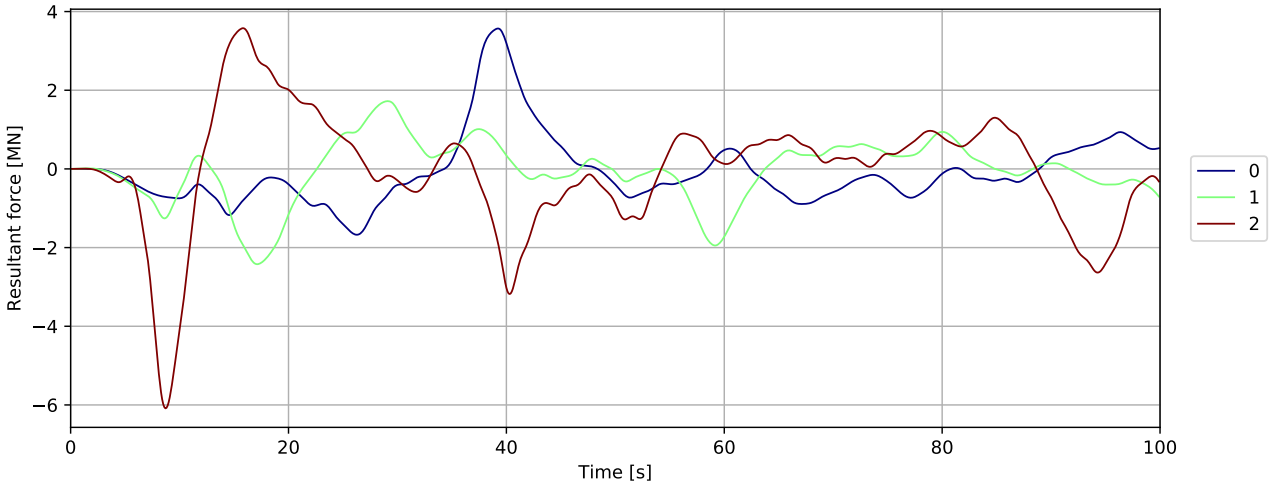

Figure 3.1563: Mooring force

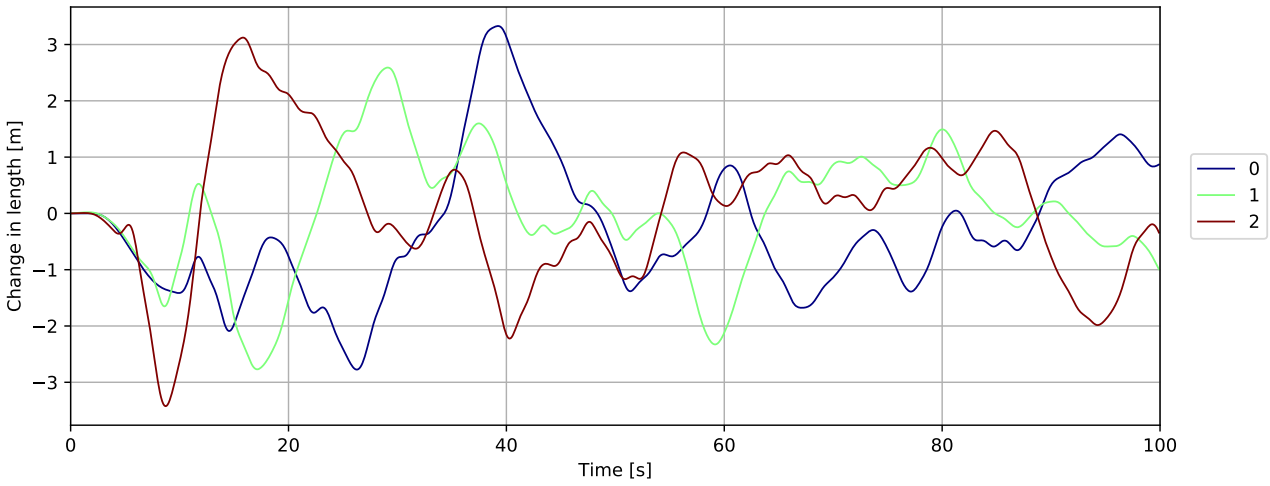

Figure 3.1564: Mooring displacement

3.35 PontoonA39 180deg

3.35.1 Overall response

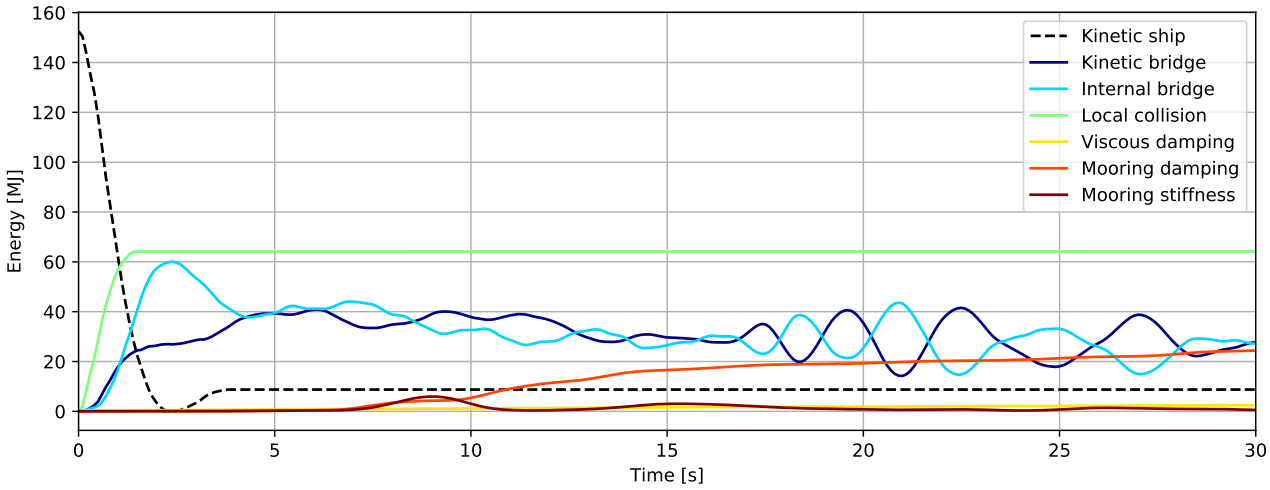

Figure 3.1565: Energy [MJ] - initial phase

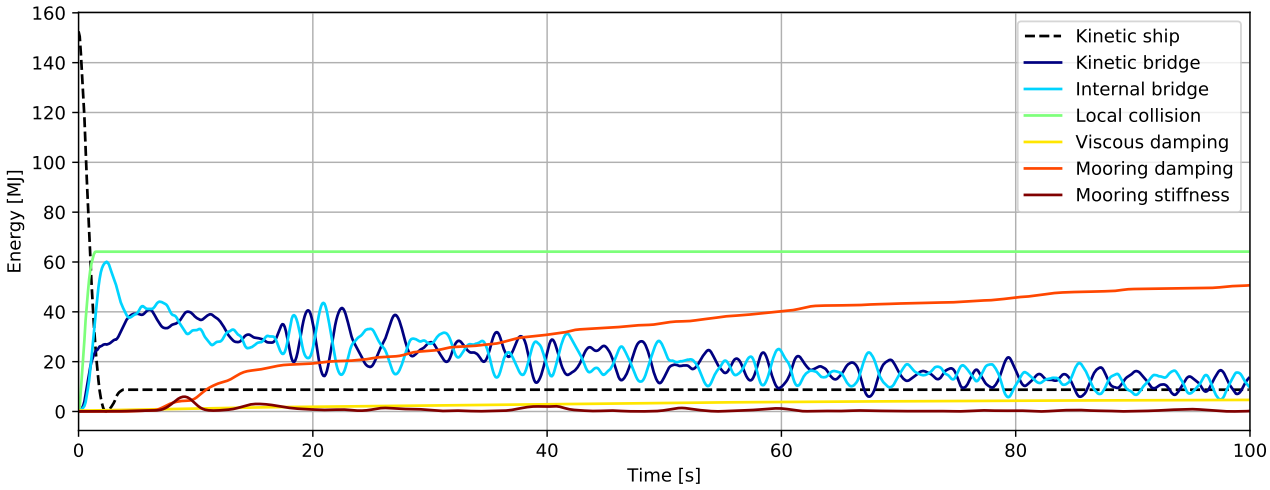

Figure 3.1566: Energy [MJ]

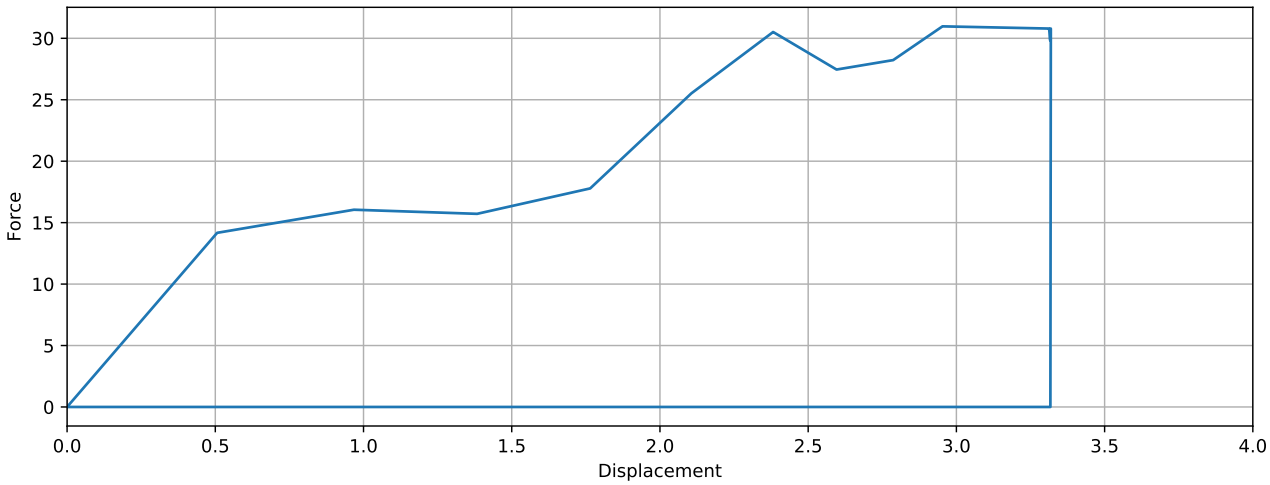

Figure 3.1567: Simulated local collision force-displacement

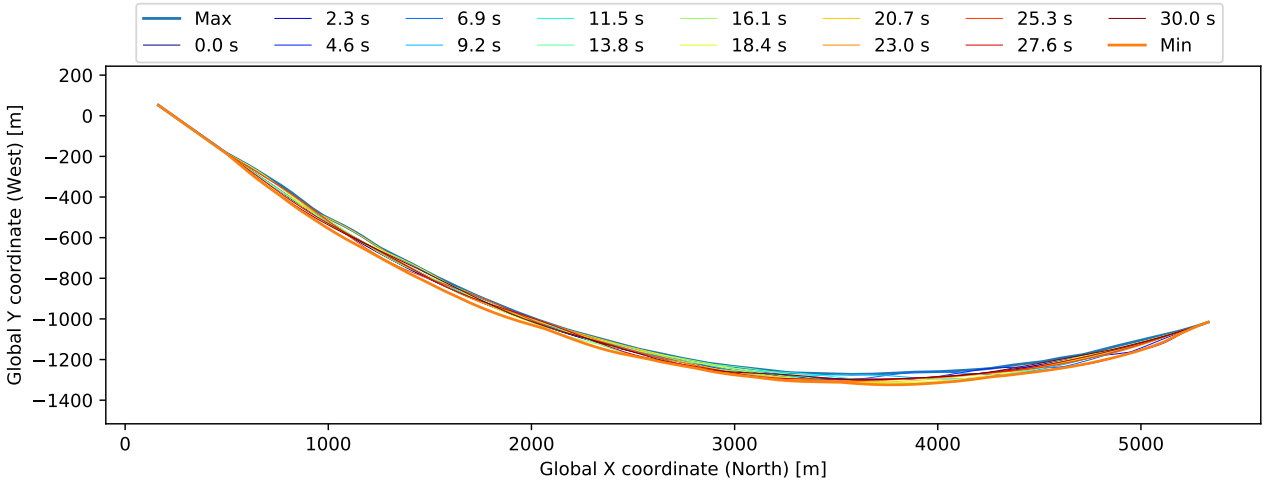

Figure 3.1568: Bridgegirder deflection (10x displacment scaling)

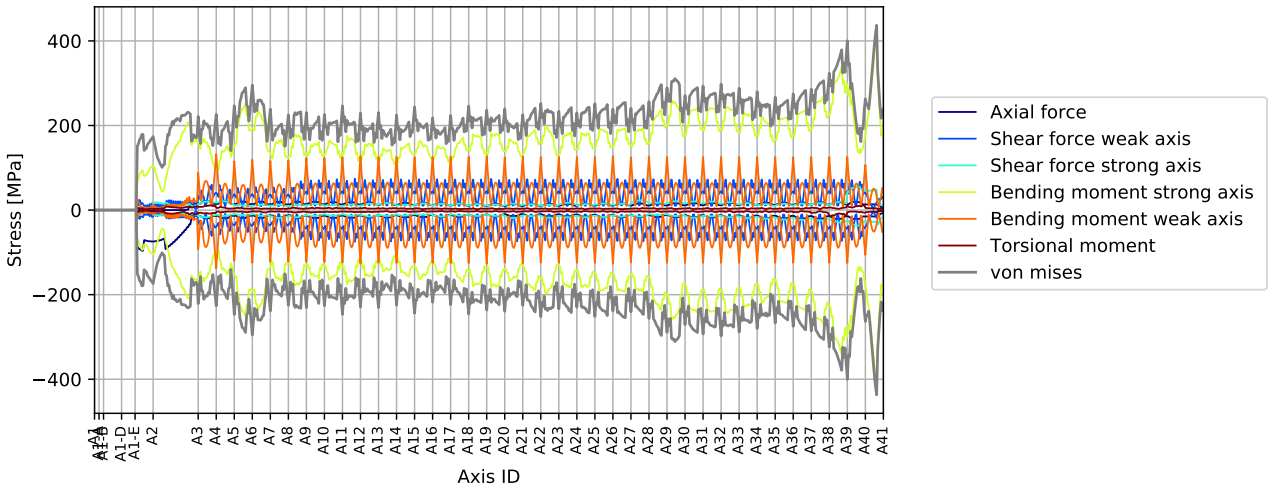

Figure 3.1569: Stress envelope from all force components

3.35.2 Envelope plots

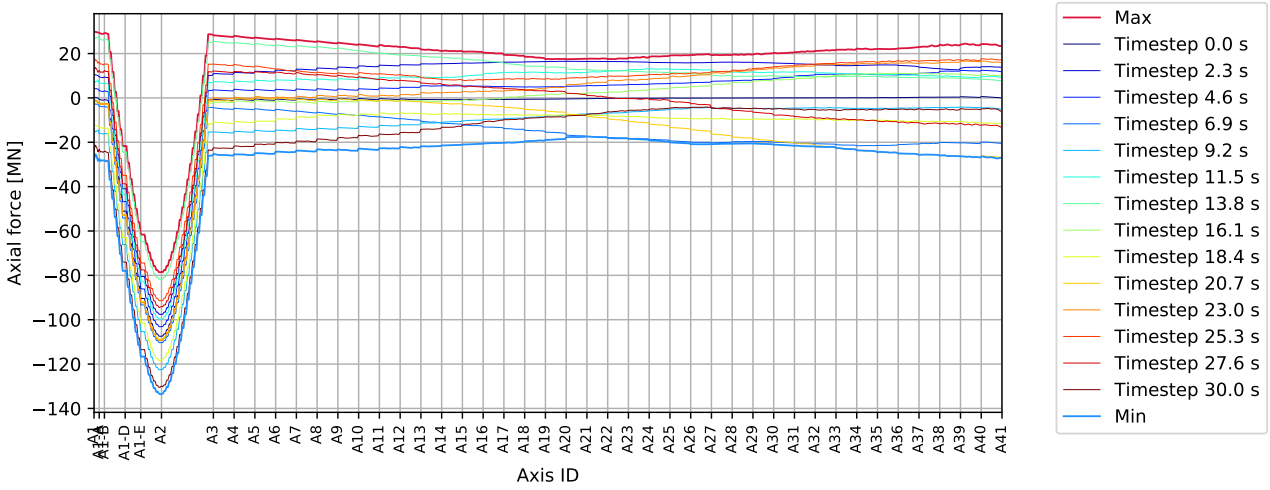

Figure 3.1570: P A39 180deg - bridgegirder : Axial force [MN]

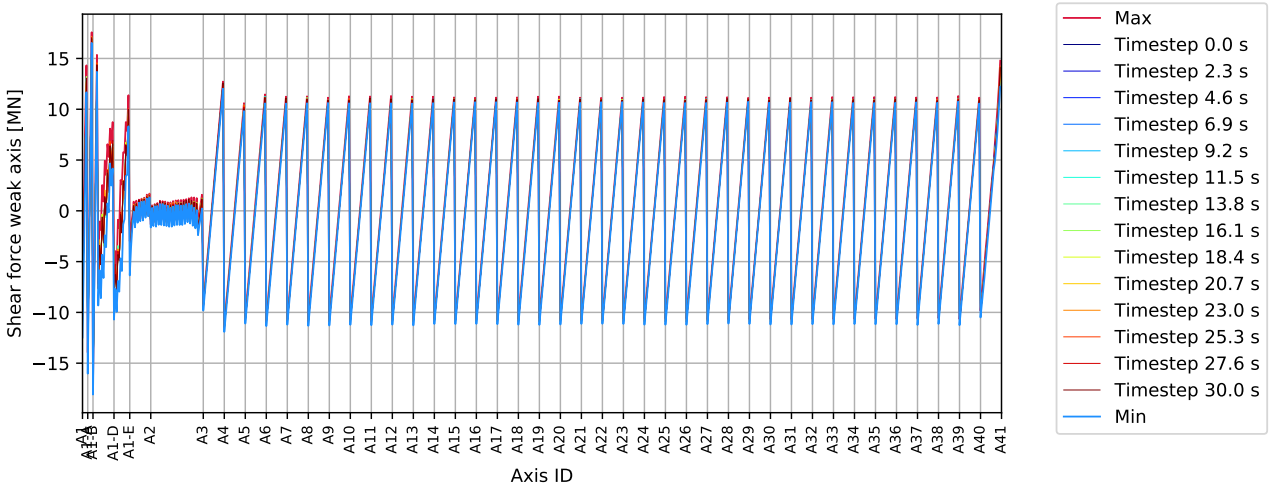

Figure 3.1571: P A39 180deg - bridgegirder : Shear force weak axis [MN]