Regressions in SeaState Branch, PR

Comparisons were done on **bjonkman fork** of OpenFAST repository, using the **f/Hydro_SeaState_PR1008** branch at commit SHA **9787e501d0fcf824b21f0b7c30d26057c4319804**.

Regression tests were done with the **f/SeaState_ConstrWave_Compare** branch of the OpenFAST r-test repository, commit SHA **72c26ecb61b5940432d74fe04630cc7386449de4**. Note that this is equivalent to the **f/SeaState_ConstrWave** (linked with f/Hydro_SeaState_PR1008) with the following modifications:

- In HydroDyn input files:
  - ExctnDisp = 0
  - WaveDisp = 0
- In SeaState input files:
  - NX, NY, and NZ are double the values in their respective input files

These were run on my local PC with double-precision executables generated from an Intel Fortran 2019 compiler and Visual Studio 2017 (using the vs-build solution files in the repository).

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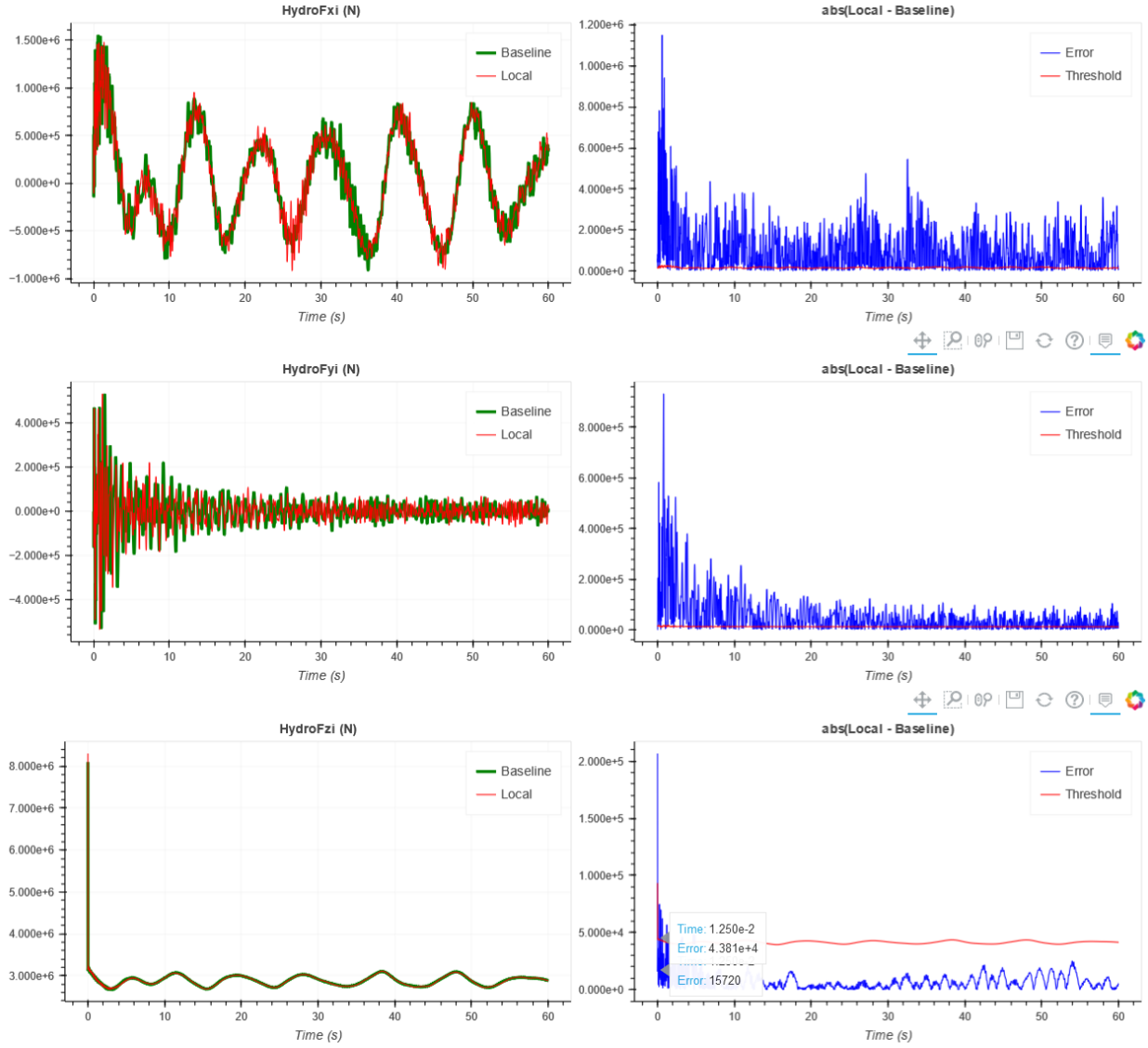
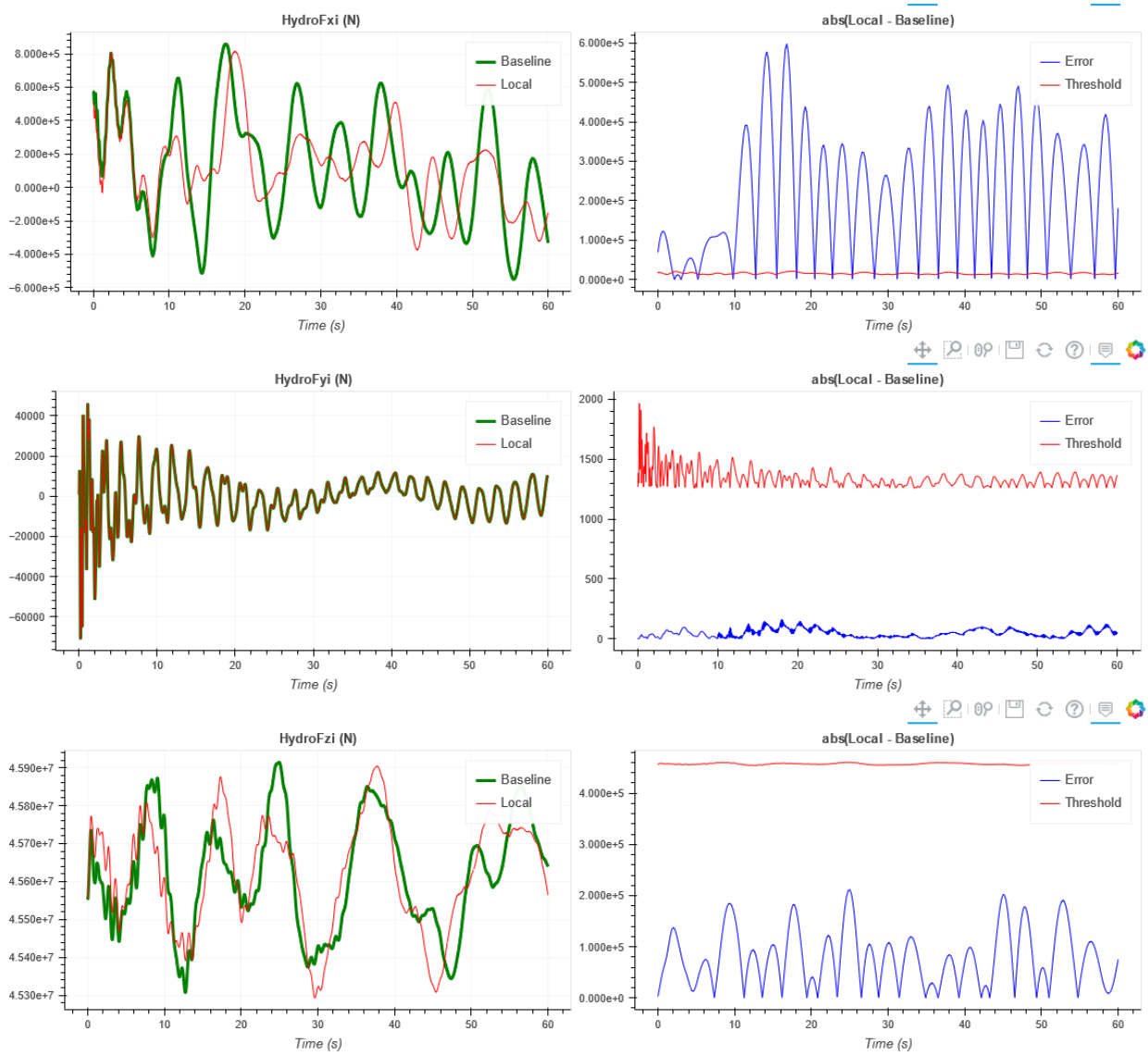
HydroDyn Driver Regressions

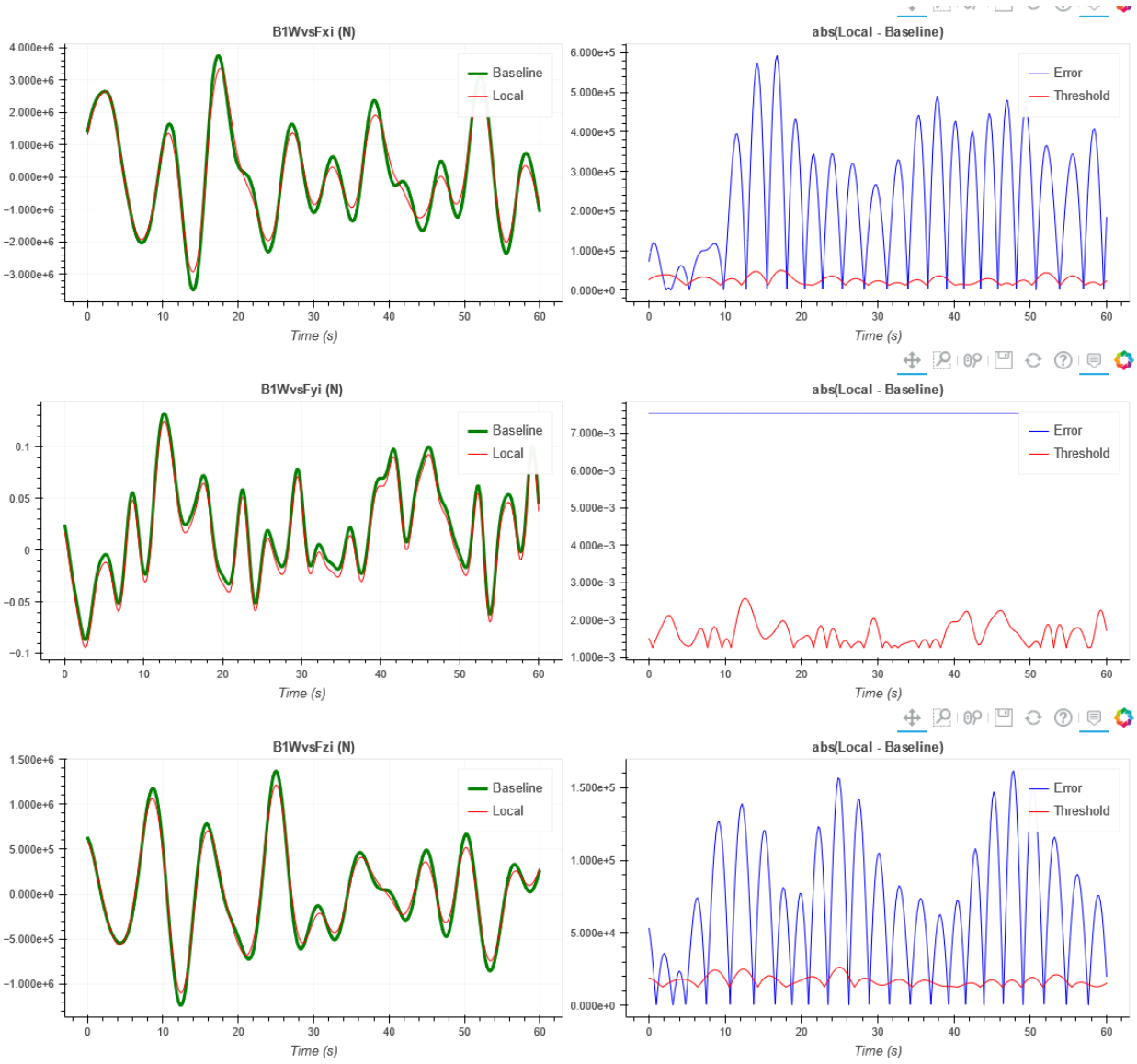
hd_5MW_OC4Jckt_DLL_WTurb_WavesIrr_MGrowth



HydroFx, Fy, Fz, Mx, My, Mz fail (different high frequency content)

*** hd_5MW_OC4Semi_WSt_WavesWN ***

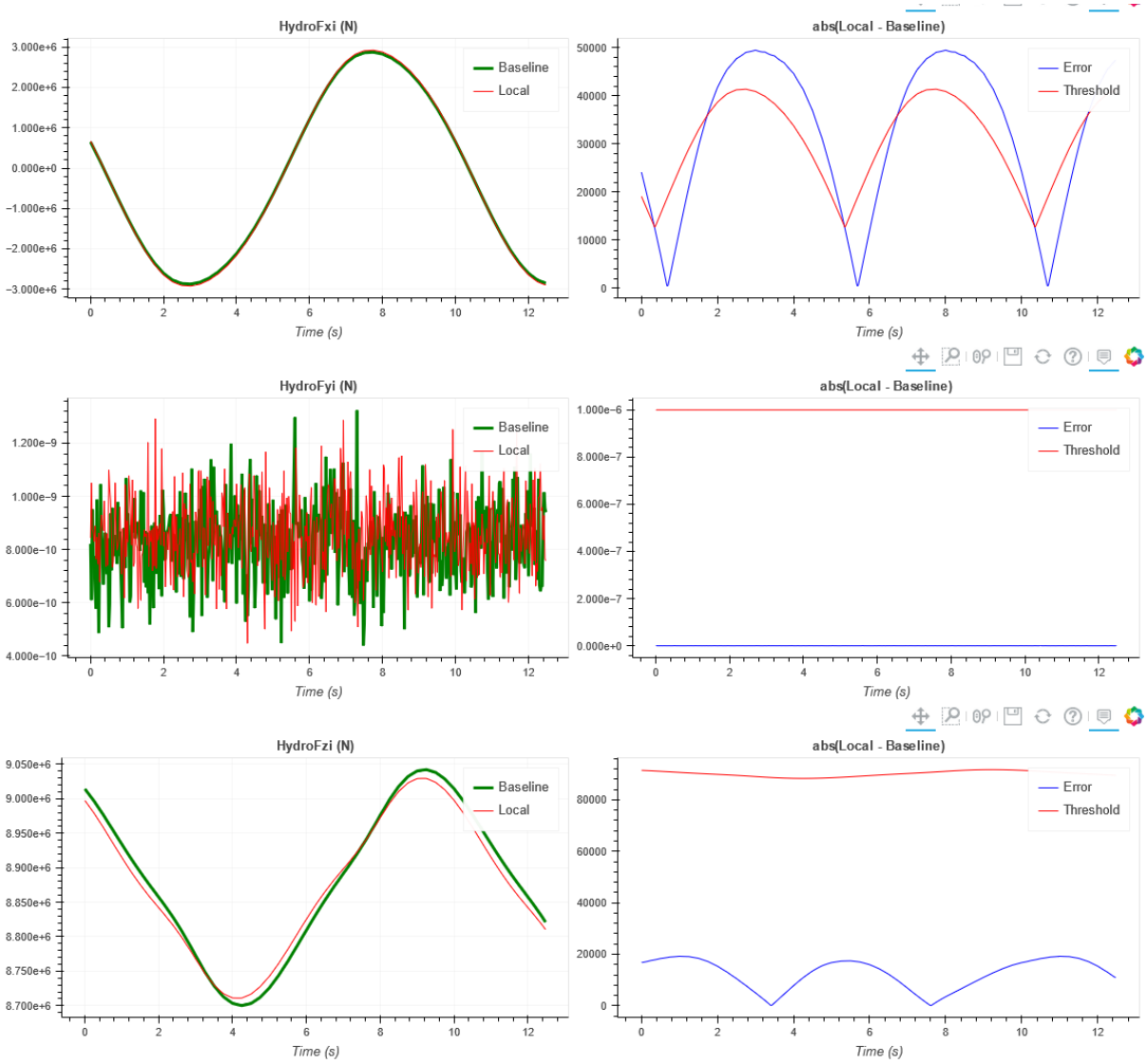




Surge/sway/heave/roll/pitch/yaw match

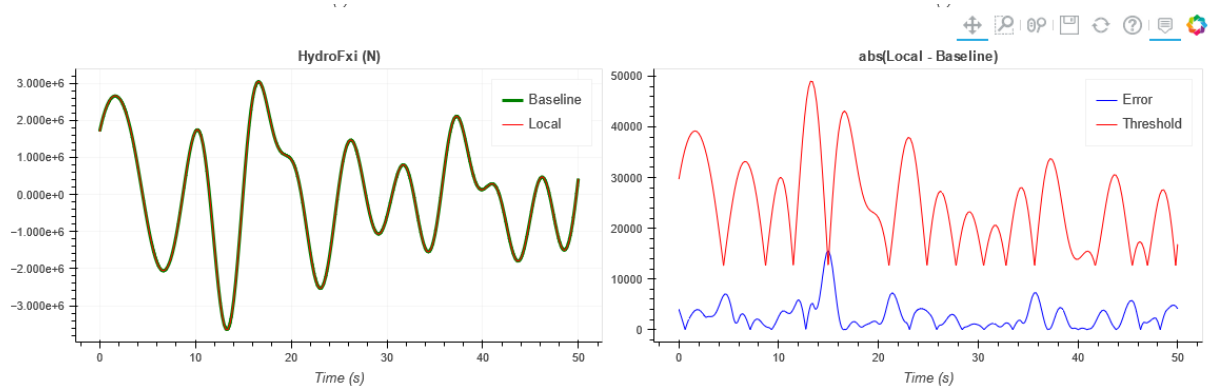
NOTE: Lu Wang ran these on his computer and said that the time histories match. I have not been able to replicate his results.

OC3tripod_offshore_fixedbottom_wavesirr



Only HydroFxi fails (though it looks okay to me), but the HydroFzi channel looks like it may be shifted a bit.

hd_NBodyMod1



One failing channel: This is mostly a shortcoming with the pass/fail criteria.

hd_NBodyMod2

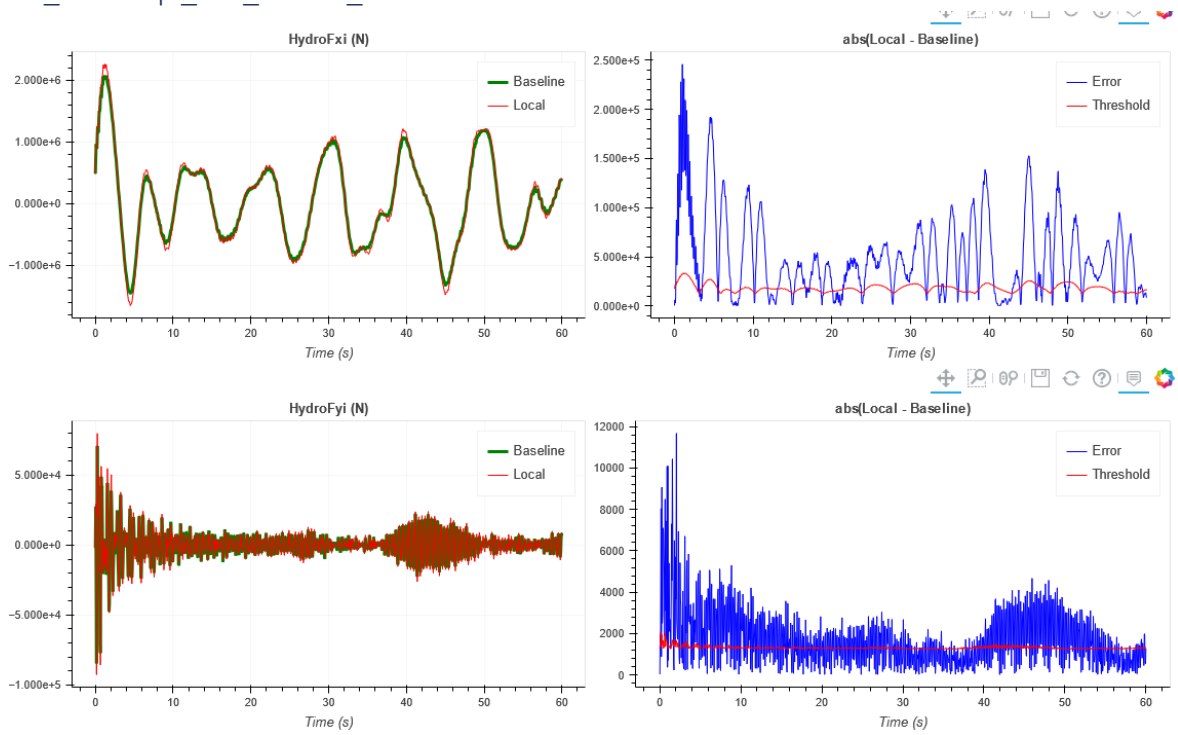
Same as hd_NBodyMod1

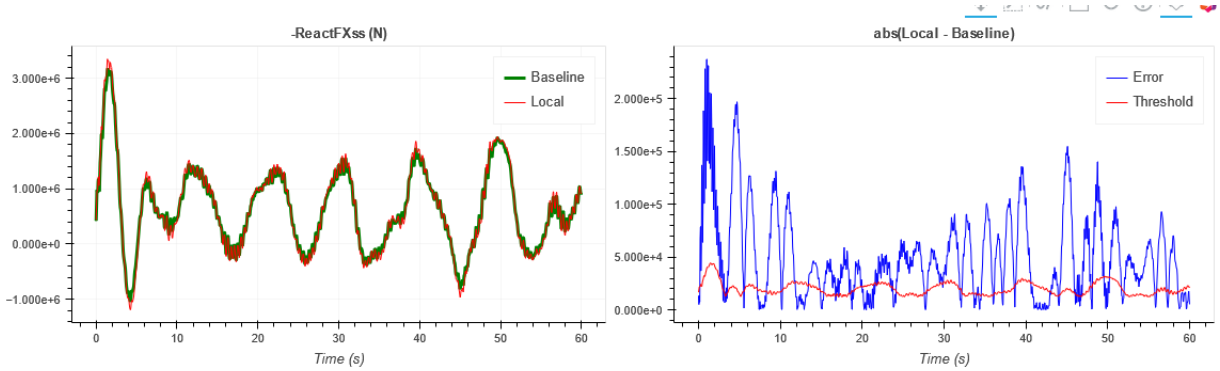
hd_NBodyMod3

Same as hd_NBodyMod1

OpenFAST Regressions

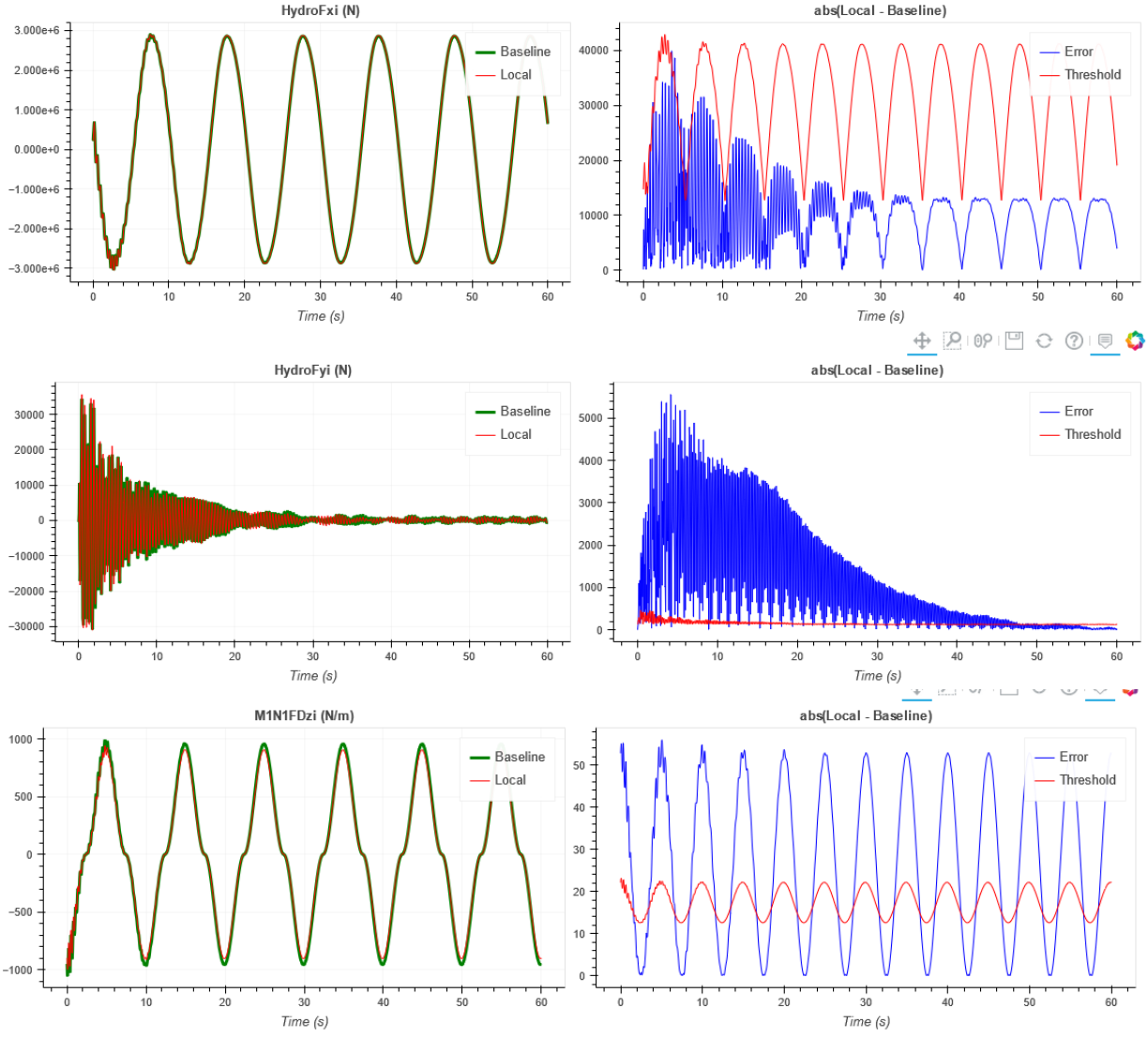
5MW_OC3Mnpl_DLL_WTurb_WavesIrr





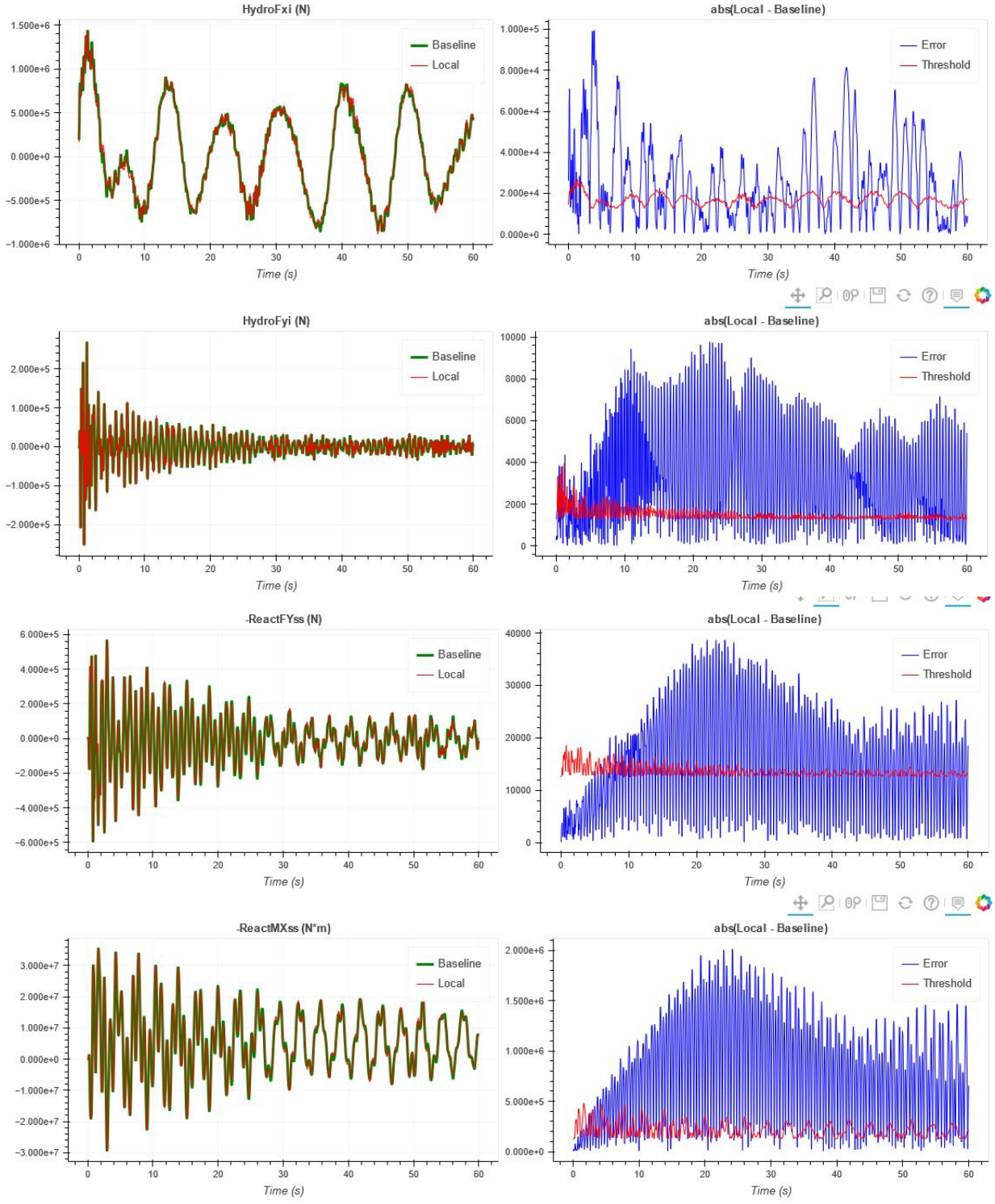
These channels have the largest deviations from the baseline cases. None look problematic.

5MW_OC3Trpd_DLL_WSt_WavesReg



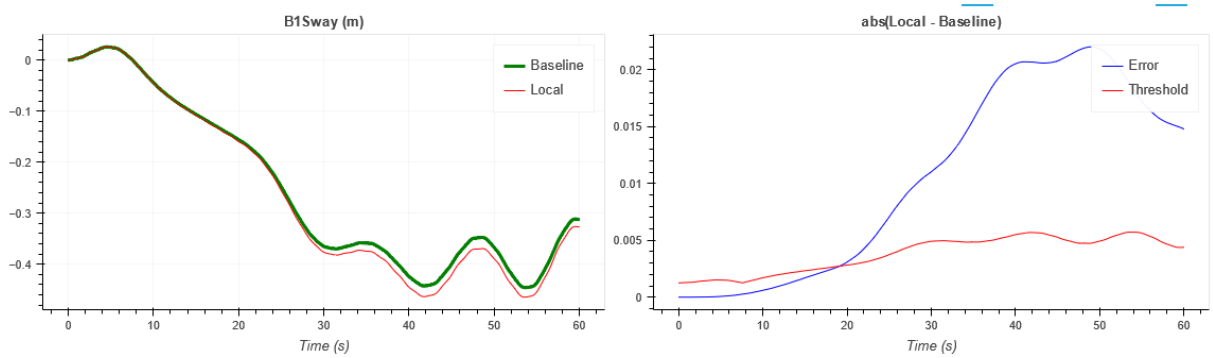
These differences do not seem to be a problem.

5MW_OC4Jckt_DLL_WTurb_WavesIrr_MGrowth

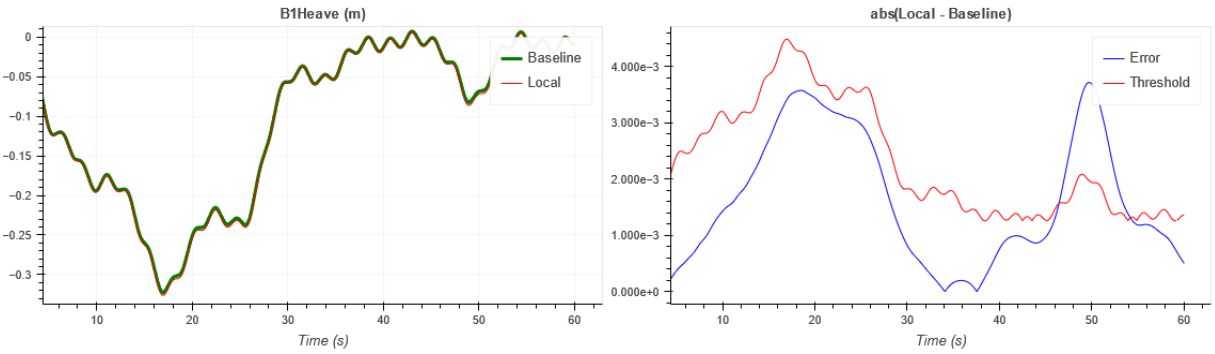


These differences do not seem to be a problem.

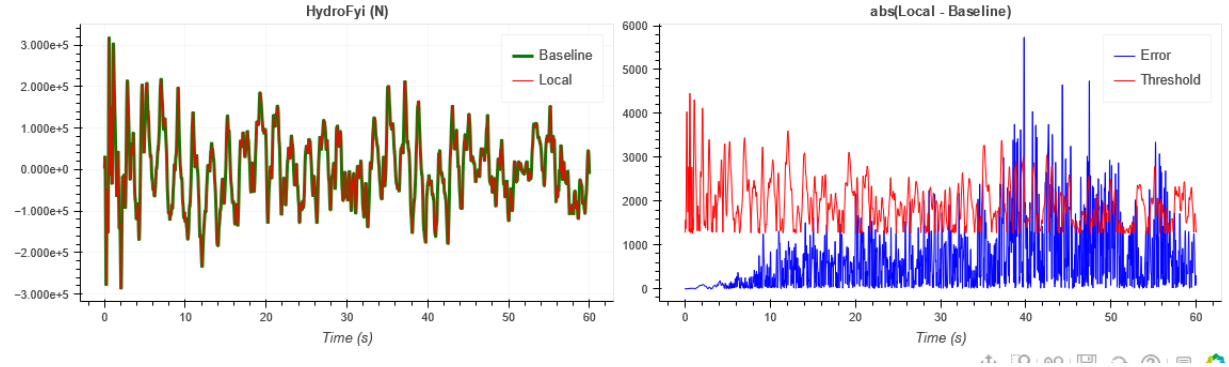
5MW_ITIBarge_DLL_WTurb_WavesIrr



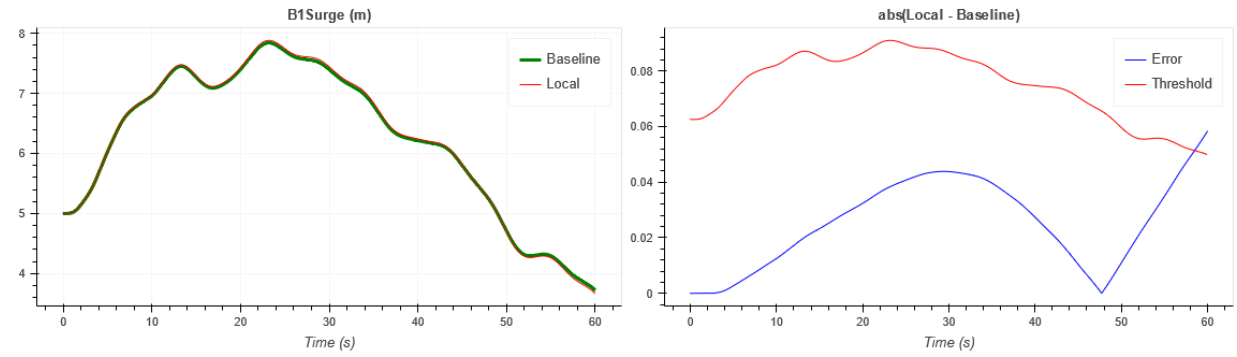
5MW_TLP_DLL_WTurb_WavesIrr_WavesMulti



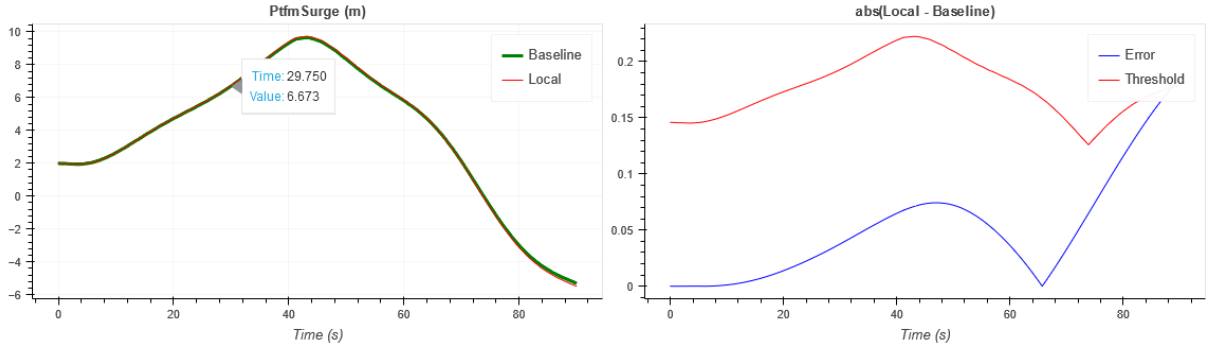
5MW_OC3Spar_DLL_WTurb_WavesIrr



5MW_OC4Semi_WSt_WavesWN



StC_test_OC4Semi



MHK_RM1_Floating