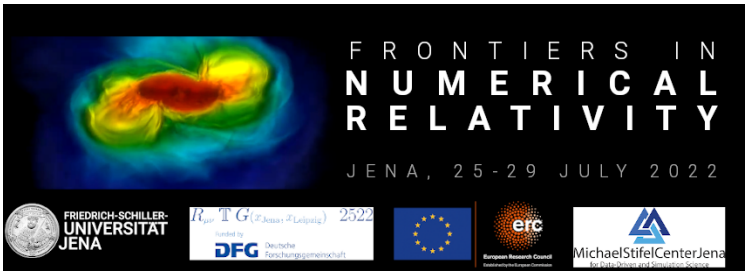

Contribution ID: **52** Type: **not specified**

hp-Adaptive Mesh Refinement in bamps

Thursday, 28 July 2022 09:45 (15 minutes)

We have implemented fully adaptive hp mesh refinement into our pseudospectral NR code 'bamps', using heuristic indicators to drive dynamic refinement both in terms of cell size and cell resolution, while retaining both strong and weak scaling across several thousand processors. Because the mesh refinement infrastructure is independent of the evolved equations, it can be applied to a variety of physics problems. Its first major application has been the study of critical collapse of gravitational waves, where it allowed tuning towards criticality at a much higher efficiency compared to previous studies, letting us examine several new families of initial data that had not previously been studied.

Presenter: RENKHOFF, Sarah (TPI Jena)

Session Classification: Short talks