Reflection for Guest Speaker

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First of all, it is really interesting to know how they use adaptive mesh refinement (AMR) they used to solve PDE among data to retrieve high resolutiuon numeric results to evaluate blackhole's merging effect. The speaker used different metrics within AMR to magnify the resolution around interesting numerical patterns of the detective data. One of the work that the presenter currently diving in is the come up with a new adaptive mesh refinement method to lower computation loss while maintain a resonable numeric accuracy. They come up with a relatively new approach of modifying the newly embedded tolerance function to refine the coeffcient calculation of PDE. It was a little confusing for me of how such introduction of the tolerance speed up the computation process from hardware theoratically, my guess is by limiting the range of the tolerance coeffcient the mesh optimization might decrease the range needed for PDE calculation on data. To me, I would like to ask further questions on how the PDE evaluator and coarse to fine predertermined mesh been implemented in C++, devlving deeper from theory to implementation. To me, every physics related content in this talk is new to me, and I really enjoy learning such astronomical concepts since I was used to be a physics student 3 years ago!