

## General Relativity and Quantum Cosmology

# Numerical modeling of gravitational wave sources accelerated by OpenCL

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In this work, we make use of the OpenCL framework to accelerate an EMRI modeling application using the hardware accelerators -- Cell BE and Tesla CUDA GPU. We describe these compute technologies and our parallelization approach in detail, present our performance results, and then compare them with those from our previous implementations based on the native CUDA and Cell SDKs. The OpenCL framework allows us to execute identical source-code on both architectures and yet obtain strong performance gains that are comparable to what can be derived from the native SDKs.

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