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Simulations of Binaries Neutron Star with Arbitrary Spins using the Einstein Toolkit PETR TSATSIN, PEDRO MARRONETTI, KONSTANTIN YAKUNIN, Florida Atlantic University — Binary neutron stars are among the most important sources of the gravitational waves and potential engines of short gamma-ray bursts. Observations of millisecond pulsars suggest that neutron stars can have substantial spins pointing in arbitrary directions. Thus realistic numerical simulations of the late inspiral and merger require initial data with arbitrary spins. We are presenting method of a constructing such an initial data by combining a solutions of two single rotating neutron stars. We report on our recent progress in simulating the merger of neutron star binaries with an arbitrary spins using Einstein Toolkit.

Petr Tsatsin
Florida Atlantic University

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