

On the Asymptotics of Gravitational Radiation and the Relativistic Kepler Problem

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I will review past and upcoming work (joint with Istvan Kadar and Hamed Masaoood) on the asymptotic behaviour of solutions to the Einstein vacuum equations and the failure of null infinity to be smooth in various settings. One of these settings takes as input heuristic (Post-Newtonian) predictions on the gravitational radiation generated by hyperbolic inspirals.

Time permitting, I will finally discuss upcoming work that addresses these heuristic predictions by constructing formal solutions to the Einstein vacuum equations describing the general relativistic analog of the Newtonian hyperbolic Kepler problems, replacing point masses by black holes.