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A new method of constructing binary black hole initial data

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By applying a parabolic-hyperbolic formulation of the constraints and superposing Kerr-Schild black holes, a simple method is introduced to initialize time evolution of binary systems. As the input parameters are essentially the same as those used in the post-Newtonian (PN) setup the proposed method interrelates various physical expressions applied in PN and in fully relativistic formulations. The global ADM charges are also determined by the input parameters, and no use of boundary conditions in the strong field regime is made.

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