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Black hole initial data within the parabolic-hyperbolic formulation

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The parabolic-hyperbolic formulation of the initial data of the Einstein equations for multiple black holes systems has been proposed recently [1-3]. It provides an alternative to the traditional conformal method [4]. During the talk, a numerical implementation of the approach to the initial data problem of general relativity will be presented. It will involve black holes described by a metric of a Kerr-Schild form.

- [1] I.Racz, Constraints as evolutionary systems, *Class. Quant. Grav.* 33, 015014 (2016).
- [2] I.Racz, A simple method of constructing binary black hole initial data, arXiv:1605.01669 (2017).
- [3] I.Racz, On the ADM charges of multiple black holes, arXiv:1608.02283 (2017).
- [4] G.B.Cook, Initial data for numerical relativity, *Living Rev. Rel.* 3, 5 (2000).

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