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Near-horizon particle collisions in spherically symmetric spacetimes

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The occurrence of infinite center of mass energies in particle collisions close to the horizon of an extremal Kerr black hole was first presented by Banados, Silk and West (BSW) in 2009. For their scenario, the rotation and the extremality of the black hole are key factors. Since their seminal paper, this phenomenon was studied for a large variety of spacetimes and for different particle setups. Here, we focus on static and spherically symmetric spacetimes and on a slightly different scenario than BSW. In particular, we discuss the physical feasibility of infinite energies in our setup for both geodesic and spinning particles.

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