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Black Holes, Singularities and the 2-Body Problem

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There are three regions in the Kerr spinning black hole metric, separated by the two event horizons. The outer two are probably good approximations to the corresponding regions as a real black hole forms, but the inner Kerr is not. It has to have something to generate the gravitational field outside, and that can only be a singularity since it is by definition matter free. However, even after 58 years there is no proof that singularities form inside real collapsing bodies. I believe this is because they are singularity free! It is also shown how an approximation method can be started with outgoing Kerr-Schild coordinates, leading to an approximation method similar to either the slow or fast approximation.

Primary author: KERR, Roy P (Canterbury University)

Presenter: KERR, Roy P (Canterbury University)

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