

Kruskal diagram

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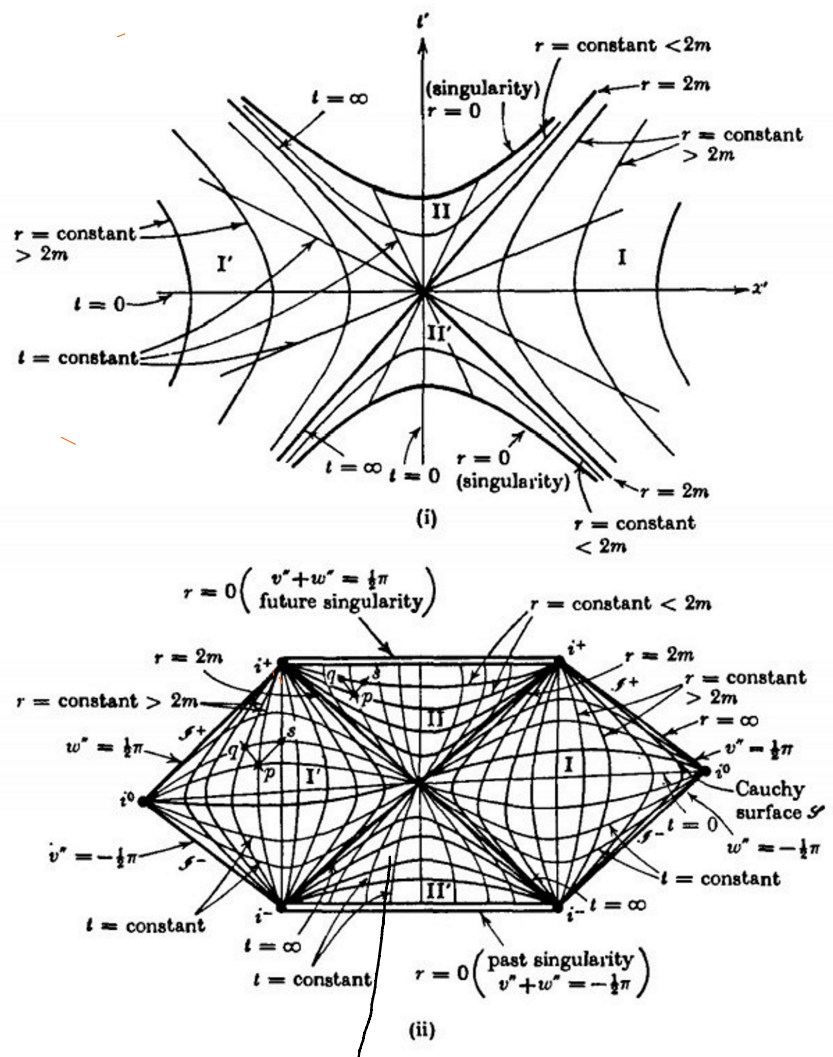


FIGURE 24. The maximal analytic Schwarzschild extension. The θ, ϕ coordinates are suppressed; null lines are at $\pm 45^\circ$. Surfaces $\{r = \text{constant}\}$ are homogeneous.

(i) The Kruskal diagram, showing asymptotically flat regions I and I' and regions II, II' for which $r < 2m$.

(ii) Penrose diagram, showing conformal infinity as well as the two singularities.

$$v'' = \arctan(v'(2m)^{-\frac{1}{2}}), \quad w'' = \arctan(w'(2m)^{-\frac{1}{2}})$$