

# Figures of Lecture 5:

## Evolution and thermodynamics of black holes

Éric Gourgoulhon

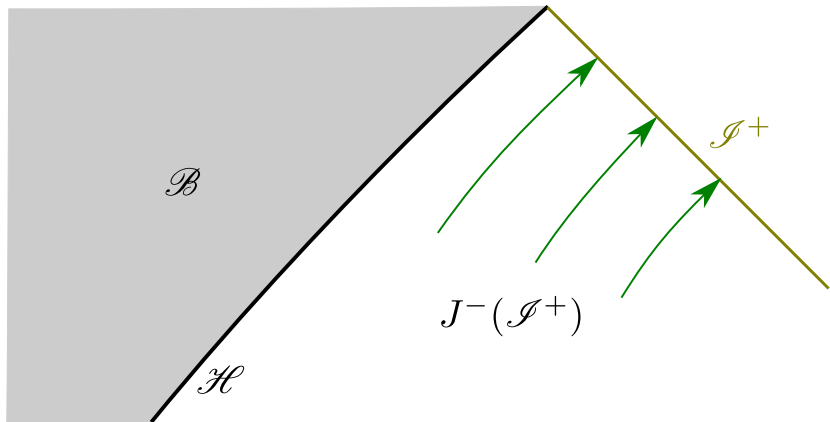
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<http://luth.obspm.fr/~luthier/gourgoulhon/>

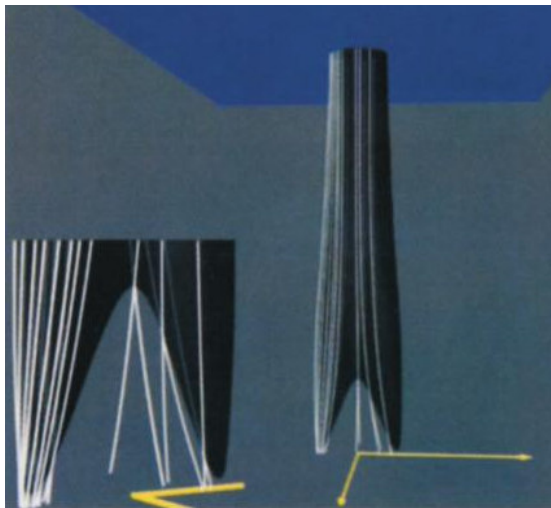
**DIAS-TH, JINR, Dubna**  
18 May 2017

<http://luth.obspm.fr/~luthier/gourgoulhon/bh16/doubna/>

# Generic definition of a black hole

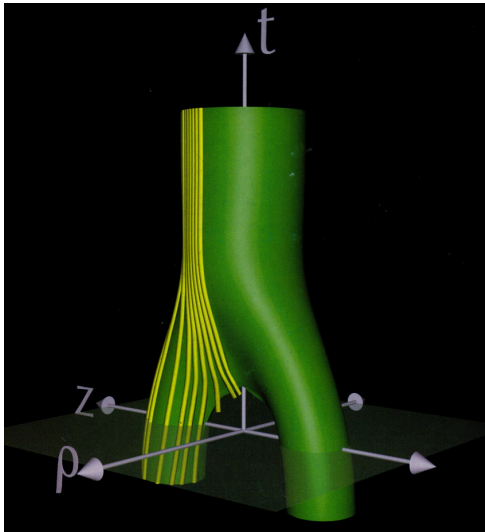


# Event horizon for the head-on merger of two black holes



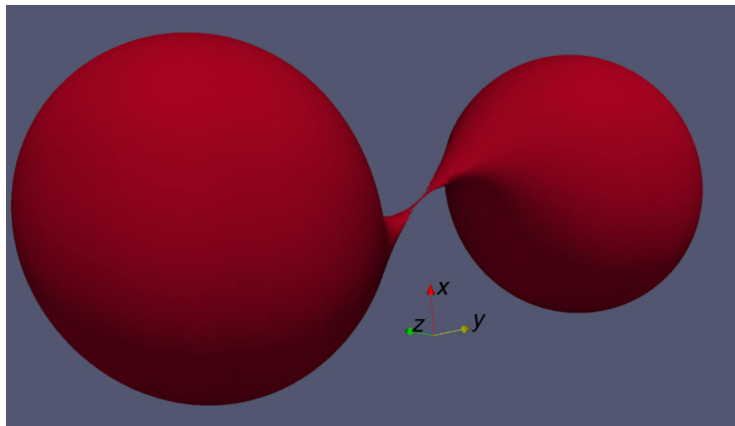
[ R.A. Matzner et al., Science 270, 941 (1995)]

# Event horizon for the head-on merger of two black holes



[ R.A. Matzner et al., Science 270, 941 (1995)]

# First connected cross-section of event horizon in inspiralling binary merger



[M.I. Cohen, J.D. Kaplan & M.A. Scheel, Phys. Rev. D **85**, 024031 (2012)]