

Marginally trapped surfaces and apparent horizons

Marginally trapped surfaces, or more specifically marginally outer trapped surfaces (MOTS) have classically been used to characterize the apparent horizon in an initial data set for Einstein's equations. I will describe some rigorous results on MOTS and apparent horizons obtained with L. Andersson. I will furthermore discuss the application of these results to the evolution of the apparent horizon in Cauchy slicings and some results toward regularity of the space-time track.