

1053-83-118

Willie Wai-Yeung Wong* (wwong@math.princeton.edu). *On rigidity of charged black-holes, part 1.*

In these two talks, we discuss how to extend the recent works of Ionescu-Klainerman and Alexakis-Ionescu-Klainerman on the rigidity of vacuum black-hole solutions to the charged case. Here we first describe the preliminary setup and provide a generalization of the Mars-Simon tensor to characterize Kerr-Newman metrics among stationary electrovac solutions. Ionescu-Klainerman's Carleman inequality can then be used to reduce the problem of black-hole uniqueness to a question of rigidity of the bifurcate event horizon. (Received August 27, 2009)