

1053-83-157

Marcus A. Khuri* (khuri@math.sunysb.edu), Department of Mathematics, Stony Brook University, Stony Brook, NY 11794. *The Static Metric Extension Problem.*

There are several competing definitions of quasi-local mass in General Relativity. A very promising and natural candidate, proposed by Bartnik, seeks to localize the ADM or total mass. Fundamental to understanding Bartnik's construction, is the question of existence for a canonical geometric boundary value problem associated with the static vacuum Einstein equations. In this talk we report on joint work with M. Anderson, which answers this question affirmatively under the hypothesis of a certain nondegeneracy condition. (Received September 01, 2009)