

1049-53-54

Richard Schoen* (schoen@math.stanford.edu), Mathematics Department, Stanford University, Stanford, CA 94305. *The geometry of static and stationary spacetimes.*

In this talk we will describe some differential geometric problems which arise from consideration of static and stationary matter models in general relativity. We will give some relevant background from Newtonian physics and describe analogous questions for the Einstein equations. The main new theorem imposes restrictions on the geometry of static n-body configurations for arbitrary matter fields with positive mass density. (Received February 16, 2009)