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Xiaodong Wang* (xwang@math.msu.edu), Department of Mathematics, Michigan State University, East Lansing, MI 48824. *Boundary effects and rigidity on compact manifolds with nonnegative or positive scalar curvature.*

I will start with the work of Shi and Tam in which they show how the positive mass theorem can be used to study the boundary effect on compact manifolds with nonnegative scalar curvature. I will present some variations and generalizations. Then I will discuss the positive scalar curvature case and joint work with Fengbo Hang on rigidity results assuming positive Ricci curvature. (Received February 02, 2009)