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Satyaki Dutta* (sunny@math.sunysb.edu), Department of Mathematics, StonyBrook University, StonyBrook, NY 11794. *A Rigidity result for Conformally Compact Manifolds with the round sphere as the Conformal Infinity*. Preliminary report.

Rigidity problems for conformally compact manifolds (M^n, g) have been studied by several mathematicians. It has been shown by Min-Oo that a spin manifold of dimension n has to be the hyperbolic space if it is strongly asymptotic hyperbolic and the scalar curvature $R \geq -n(n-1)$. Leung and J. Qing proved for conformally compact asymptotically hyperbolic Einstein manifolds. We proved here a similar result, where the manifold is "close to" but not Einstein and with no restriction on the dimension. Recently it has been shown by Shi and Tian that an ALH manifold of order $\alpha > 2$, with a pole and $Ric \geq -ng$ has to be the hyperbolic space. We proved the same conclusion, but with a weaker assumption on the asymptotic behavior of the sectional curvatures. (Received September 03, 2006)