

## SOME RIGIDITY RESULTS ON THE HALF SPHERE

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### **Abstract.**

We will discuss some rigidity theorems for compact manifolds with boundary and positive Ricci curvature. In particular we will show if a  $n$  dimensional manifold has Ricci curvature at least  $n - 1$ , the boundary is totally geodesic and isometric to standard  $S^{n-1}$ , then the manifold is isometric to standard upper half sphere. This is the Ricci version of a conjecture by Min-Oo on scalar curvature rigidity.