

THE ACTION OF $\text{Diff}(M)$ ON METRICS OF POSITIVE SCALAR CURVATURE

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In 1974, Nigel Hitchin showed that the orbit map associated to the action of the diffeomorphism group of the d -dimensional sphere on its space of positive scalar curvature metrics induces a nontrivial map on components provided that $d \equiv 0, 1 \pmod{8}$. Hence, this action can be used to detect non-isotopic psc metrics.

In this talk, I will present a rigidity result for this action. Among other applications, it implies that the orbit map for the sphere is trivial in every other dimension bigger than 6. So Hitchin's detection result is the only possible one of this kind for high-dimensional spheres.

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The action of $\text{Diff}(M)$ on $\mathcal{R}^+(M)$

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