

Existence, Compactness and Non Compactness for fractional Yamabe Problem

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Abstract. Let (X^{n+1}, g^+) be an $(n+1)$ -dimensional asymptotically hyperbolic manifold with a conformal infinity $(M^n, [h])$. The fractional Yamabe problem consists in finding a metric in the conformal class $[h]$ whose fractional scalar curvature is constant. In this talk, I will present some recent results concerning existence of solutions to the fractional Yamabe problem, and also properties of compactness and non compactness of its solution set, in comparison with what is known in the classical case. These results are in collaboration with Seunghyeok Kim and Juncheng Wei.