

Rigidity of noncompact complete Bach-flat manifolds

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Let (M, g) be a noncompact complete Bach-flat manifold with positive Yamabe constant. We prove that (M, g) is flat if (M, g) has zero scalar curvature and sufficiently small L_2 bound of curvature tensor. When (M, g) has nonconstant scalar curvature, we prove that (M, g) is conformal to the flat space if (M, g) has sufficiently small L_2 bound of curvature tensor and $L_{4/3}$ bound of scalar curvature.

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