

OPTIMAL CURVATURE DECAYS ON ASYMPTOTICALLY LOCALLY EUCLIDEAN MANIFOLDS

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Abstract.

We present a method in nonlinear elliptic systems to study curvature decays on asymptotically locally Euclidean (ALE) manifolds. In particular, we show that scalar flat Kahler ALE metrics are of order $n - 2$. This decay is optimal and is realized on complex line bundles over CP^m . Moreover, our method is flexible and can be applied to more general elliptic systems of reaction-diffusion type.