

# Stability of the positive mass theorem for asymptotically hyperbolic graphs

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The rigidity of the Riemannian positive mass theorem asserts that the ADM mass of an asymptotically flat manifold with non-negative scalar curvature equals zero if and only if the manifold is the Euclidean space. It is natural to ask if the ADM mass of a given manifold is close to zero, is the manifold close to the Euclidean space in some sense? Huang and Lee proved the stability (in the sense of currents) of the positive mass theorem for asymptotically flat graphs. We will describe how to use results of Dahl, Gicquaud and Sakovich to adapt Huang and Lee's ideas to obtain a stability result for positive mass theorem for asymptotically hyperbolic graphs.

## References

- [1] Dahl, M., Gicquaud, R. and Sakovich, A., Penrose type inequalities for asymptotically hyperbolic graphs, *Ann. Henri Poincaré* **14**(5) (2013), pp. 1135–1168.
- [2] Huang, L.-H. and Lee, D. A., Stability of the positive mass theorem for graphical hypersurfaces of Euclidean space, *Comm. Math. Phys.* **337**(1) (2015), pp. 151–169.