

Initial data rigidity results

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In this lecture we aim to present some rigidity results for initial data sets that are motivated by the spacetime positive mass theorem. A key step is to show that certain marginally outer trapped surfaces (MOTS) are weakly outermost. As a special case, our results include a rigidity result for Riemannian manifolds with a lower bound on their scalar curvature. This lecture is based on a joint work with Michael Eichmair (University of Vienna) and Gregory J. Galloway (University of Miami) [1].

References

- [1] EICHMAIR, MICHAEL; GALLOWAY, GREGORY J.; MENDES, ABRAÃO. *Initial data rigidity results*. Comm. Math. Phys.