

# GLUING SMALL BLACK HOLES INTO INITIAL DATA SETS

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I will describe a localized gluing result for the constraint equations in which a small mass rescaling of an asymptotically flat data set is glued into the neighborhood of a point inside another data set. As the smallness parameter tends to zero, rescalings of normal coordinates around the point become asymptotically flat coordinates on the asymptotically flat data set. As an application, we construct initial data for the Einstein vacuum equations which conjecturally evolve into extreme mass ratio inspirals.