Spring 2026

Geometry and Topology Seminar

Title

Gromov's Endpoint C^0 Rigidity for the Positive Mass Theorem

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Date:	June 30, 2026
Time:	10:30AM (China Standard Time)
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Abstract: We prove Gromov's endpoint C^0 rigidity conjecture: if g is a smooth complete metric on $\mathbb{R}^3$ with nonnegative scalar curvature and

$$|g - g_{\mathrm{Euc}}| = o(|x|^{-1}),$$

then $(\mathbb{R}^3, g)$ is isometric to Euclidean space. Building on the approach of Mazurowski and Yao, we extend their rigidity theorem from $O(|x|^{-1-\tau})$ decay to the sharp endpoint $o(|x|^{-1})$. The proof combines endpoint Green-function asymptotics with the monotonicity and rigidity of the Agostiniani – Mazzieri – Oronzio functional. This is joint work with Heng Zhang (张衡).