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Larry Guth, Hong Wang and Ruixiang Zhang* (rzhang347@wisc.edu). *Local smoothing for the wave equation in $2 + 1$ dimensions.*

Sogge's local smoothing conjecture for the wave equation predicts that the solution to this equation gets smoother when averaged over time. Jointly with Larry Guth and Hong Wang, we recently proved the conjecture in \mathbb{R}^{2+1} . I will talk about a sharp square function estimate we proved which implies the local smoothing conjecture in dimensions $2 + 1$. A key ingredient in the proof is an incidence type theorem. (Received January 21, 2020)