



Wave equations on non-smooth space-times

[Guenther Hoermann](#), [Michael Kunzinger](#), [Roland Steinbauer](#)

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We consider wave equations on Lorentzian manifolds in case of low regularity. We first extend the classical solution theory to prove global unique solvability of the Cauchy problem for distributional data and right hand side on smooth globally hyperbolic space-times. Then we turn to the case where the metric is non-smooth and present a local as well as a global existence and uniqueness result for a large class of Lorentzian manifolds with a weakly singular, locally bounded metric in Colombeau's algebra of generalized functions.

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