

1059-35-57

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On almost global wellposedness for quasilinear wave equations with radial symmetry. Preliminary report.

In this talk, we discuss our recent work on the Cauchy problem for 3-dimensional quasi-linear wave equations for initial data with low regularity.

For this purpose, we prove a space-time L^2 estimate of Morawetz/Keel-Smith-Sogge type for the variable coefficient wave equation, which was proved for the flat case in the previous work of K. Hidano and K. Yokoyama.

Assuming radial symmetry and using the space-time estimate, we establish the almost global well posedness for small initial data in $H^2 \times H^1$. (Received February 12, 2010)