Uniqueness and stability of traveling waves to the time-like extremal

Yi Zhou

Fudan University
China
yizhou@fudan.edu.cn

Joint work with: Jianli Liu

There are a few results about the global stability of nontrivial solutions to quasilinear wave equations. In this paper we are concerned with the uniqueness and stability of traveling wave to the time-like extremal hypersurface in Minkowski space. Firstly, we can get the existence and uniqueness of traveling wave solutions to the time-like extremal hypersurface in $R^{1+(n+1)}$, which can be considered as the generalized Bernstein theorem in Minkowski space. Furthermore, we also get the stability of traveling wave solutions with speed of light to time-like extremal hypersurface in $1 + (2 + 1)$ dimensional Minkowski space, which is corresponding with quasilinear wave equation in two dimensions.