Plane averaging and formation of singularity for 3D nonlinear wave

Thomas Sideris (University of California, Santa Barbara)

October 27, 2007

We will discuss the phenomenon of formation of singularities in small solutions of nonlinear wave equations in 3d. By averaging over families of 2d hyperplanes, the problem can in certain cases be successfully reduced to a problem in one space dimension. This simplifies subsequent comparison arguments.