

1077-35-2443

Karen Yagdjian* (yagdjian@utpa.edu), 1201 West University Drive, Edinburg, TX 78539.

Sign-changing solutions of the semilinear hyperbolic equations.

In this talk we discuss global in time solutions (not necessarily small) of some model semilinear hyperbolic equations. We reveal qualitative behavior of the global solutions, and, in particular, we formulate sufficient conditions for the global solutions to be sign-changing. These conditions guarantee existence of the zeros of global solutions in the interior of their supports. The application of these results to the equations, which have been studied in particle physics and inflationary cosmology, implies a creation of the so-called bubbles. (Received September 22, 2011)