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*Strichartz estimates for the damped wave equation and its application to the nonlinear problem*

In this talk, we consider the damped wave equation (DW). The  $L^p-L^q$  type estimate was firstly obtained by Matsumura in 1976. After his work, many researchers have obtained such type estimates. However, there are less results for the space-time estimates, which are so called Strichartz estimates. Recently, Watanabe (2017) proved the Strichartz estimates for DW in the low space-dimensional case. In this talk, I show the Strichartz estimates in the higher dimensional case. Moreover, we consider the energy critical nonlinear damped wave equation (NLDW). Precisely, we discuss the local well-posedness, the decay property, and the finite time blow-up of the solutions to NLDW.