1077-35-2223   **Min Chen*** (`chen45@purdue.edu`), Dept of Mathematics, Purdue University, West Lafayette, IN 47906. *From Euler equation to Boussinesq system to KP equation.*

This talk is to demonstrate that the famous Kadomtsev-Petviashvilli II-type equation for water waves which are weakly three-dimensional and propagating predominantly in one-direction can be derived formally from the three-dimensional Boussinesq system (see Bona, Chen and Saut (2002)). The relationship between the dispersion relations of Euler equations, Boussinesq systems and KP equations are also analyzed. (Received September 21, 2011)