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Sarbarish Chakravarty* (schakrav@uccs.edu), Department of Mathematics, University of Colorado at Colorado Springs, 1420 Austin Bluffs Parkway, PO Box 7150, Colorado Springs, CO 80933. *A generating function for the N -soliton solutions of the Kadomtsev-Petviashvili II equation.*

We describe a classification of the N -soliton solutions of the Kadomtsev-Petviashvili II equation in terms of chord diagrams of N chords joining pairs of $2N$ points. The different classes of N -solitons are enumerated by the distribution of crossings of the chords. This is joint work with Yuji Kodama. (Received February 26, 2007)