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Jinho Baik* (baik@umich.edu), 530 Church Street, Ann Arbor, MI 48103. *Random complete matching and Ablowitz-Ladik*. Preliminary report.

We will discuss the so-called maximal number of crossings and nestings of a random complete matching. A few years ago, Chen, Deng, Du, Stanley and Yan found a determinant formula for the joint distribution of them. We will discuss that this determinant is related to the Ablowitz-Ladik equations in integrable systems and compute the limiting joint distribution using the Riemann-Hilbert problem. This is a joint work with Bob Jenkins from U.Michigan. (Received January 22, 2010)