Meeting: 1003, Atlanta, Georgia, SS 38A, AMS-SIAM Special Session on Orthogonal Polynomials—Random Matrices—Integrable Systems: Interdisciplinary Aspects, I

1003-33-734   **Alexander R Its*** (`itsa@math.iupui.edu`), Department of Mathematical Sciences, IUPUI, 402 North Blackford Street, Indianalpolis, IN 46202-3216. *On the double scaling limit of the partition function of the one matrix hermitian model.* Preliminary report.

We will describe a Riemann-Hilbert approach to the rigorous large N asymptotic analysis of the one matrix partition function in the case of quartic potential and near the critical point corresponding to the transition from one cut to two cut regimes. This is a joint work with P. Bleher. (Received September 28, 2004)