1127-46-359   **Hari Bercovici*** (`bercovic@indiana.edu`), Mathematics Department, Indiana University, Bloomington, IN 47405. *Noncommutative functions in the study of random matrices.* Preliminary report.

It is known that large independent ensembles of random matrices are asymptotically free (relative to the expected value of the normalized trace). This allows the application of the subordination functions appearing in free probability to such matrices. We will explain how this works in the calculation of the spectral distribution of a polynomial in two random matrices, using subordination as well as a linearization of the polynomial. The new results we present come from joint work with Serban Belinschi and Mireille Capitaine. (Received February 07, 2017)