

# ON THE DISTRIBUTION OF THE OUTLIERS IN LARGE RANDOM MATRICES

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Our talk will be devoted to the problem of fluctuation of the outliers in the spectrum of finite-rank deformations of large Wigner random matrices (see [1] and [2]). In particular, we will show how the problem can be reduced to the problem of fluctuation of matrix entries of regular functions of large Wigner matrices ([3], [4]). The results are obtained in collaboration with Sean O'Rourke (Rutgers), Alessandro Pizzo (UC Davis), and David Renfrew (UCLA).

## REFERENCES

- [1] On Finite Rank Deformations of Wigner Matrices (joint with Alessandro Pizzo and David Renfrew), to appear in the Annales de l'Institut Henri Poincaré (B) Probabilités et Statistiques, <http://arxiv.org/abs/1103.3731/>
- [2] On Finite Rank Deformations of Wigner Matrices II: Delocalized Perturbations (joint with David Renfrew), <http://arxiv.org/abs/1203.5130/>
- [3] On Finite Rank Deformations of Wigner Matrices (joint with Alessandro Pizzo and David Renfrew), Journal of Statistical Physics, v. 146, No. 3, 550-591, (2012). <http://arxiv.org/abs/1103.1170/>
- [4] On Fluctuations of Matrix Entries of Regular Functions of Wigner Matrices with Non-Identically Distributed Entries (joint with Sean O'Rourke and David Renfrew), to appear in the Journal of Theoretical Probability, <http://arxiv.org/abs/1104.1663/>