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Diane C. Holcomb* (holcomb@math.wisc.edu) and **Benedek Valkó**. *Large deviations for point process limits of random matrices.*

The Gaussian Unitary ensemble (GUE) is one of the most studied Hermitian random matrix model. When appropriately rescaled the eigenvalues in the bulk of the spectrum converge to a translation invariant limiting point process called the Sine process. On large intervals one expects the Sine process to have a number of points that is roughly the length of the interval times a fixed constant (the density of the process). We solve the large deviation problem which asks about the asymptotic probability of seeing a different density in a large interval as the size of the interval tends to infinity. Our proof works for a one-parameter family of models called beta-ensembles which contain the Gaussian orthogonal, unitary and symplectic ensembles as special cases. (Received September 16, 2013)