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Rica. *Diffusion at RMT's hard edge.*

The RMT hard edge refers to the behavior of the minimal eigenvalues of a (natural) one-parameter generalization of Gaussian sample covariance matrices. We show that, in the large dimensional limit, the law of these points are shared by that of the spectrum of a certain random second-order differential operator. The latter may be viewed as the generator of a Brownian motion with white noise drift. By a Riccati transform, we get a second diffusion description of the hard edge in terms of hitting times. This should all be compared to slightly less recent results of the authors and B. Virag on the RMT “soft” edge (Received February 10, 2008)