



Mathematical Physics

# On High Moments and the Spectral Norm of Large Dilute Wigner Random Matrices

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We consider a dilute version of the Wigner ensemble of  $n$ -dimensional random matrices  $H$  such that each row has in average  $\rho_n$  non-zero elements. We study asymptotic properties of the spectral norm of  $H$  on the scale  $n^{-2/3}$  in the limit when  $\rho_n$  is of the order  $n^{-2/3(1+\epsilon)}$  with  $\epsilon > 0$ .

Comments: Revised version; proofs in more details, the general approach and a part of computations simplified; 54 pages, 1 figure; Version 3: a few misprints corrected

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