

Missing level statistics of microwave networks with violated time reversal invariance

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In the talk I will discuss experimental studies of the power spectrum and the other fluctuation properties of the spectra of microwave networks simulating chaotic quantum graphs with broken time reversal symmetry. In the measurements a few percent of the levels were missing in each realization of a microwave network.

On the basis of our data sets we demonstrate that the power spectrum in combination with long-range and short-range level correlations provides a powerful tool for the identification of the symmetries and the determination of the fraction of missing levels [1]. It is important to point out that such a procedure is indispensable for the evaluation of the fluctuation properties in the spectra of, e.g., molecules or nuclei, where one has to deal with missing levels.

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References

[1]. M. Białous, V. Yunko, S. Bauch, M. Ławniczak, B. Dietz, and L. Sirko, *Phys. Rev. Lett.* **117**, 144101 (2016).