

Coexistence of spectra in rank-one perturbation problems

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I shall report on joint work with A. Poltoratski and S. Fuentes on the behavior of spectra of selfadjoint operators when rank one perturbations are considered. It is well known that a.c. spectra is stable and singular spectra is in general unstable under these kind of perturbations. We study the phenomenon of coexistence of different types of spectra for families of perturbations which depend on a parameter. Almost anything can happen.