θ-Antieigenvalues and θ-Antieigenvectors

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We introduce the notion of θ-antieigenvalue and θ-antieigenvector of a bounded linear operator on complex Hilbert space and study the realtion between θ-antieigenvalue and centre of mass of a bounded linear operator. We show that the notion of real antieigenvalue, imaginary antieigenvalue and symmetric antieigenvalue follows as a special case of θ-antieigenvalue. We also show how the notion of total antieigenvalue is related to the θ-antieigenvalue. In fact, we show that all the notions of antieigenvalues studied so far follows from the concept of θ- antieigenvalue. We illustrate with example how to calculate the θ-antieigenvalue for an operator acting on a finite dimensional Hilbert space.

The talk is based on a joint work with G. Das.