Cosine of angle and center of mass of an operator

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We consider the notion of real center of mass and total center of mass of a bounded linear operator relative to another bounded linear operator and explore their relation with cosine and total cosine of a bounded linear operator acting on a complex Hilbert space. We give another proof of the Min-max equality and then generalize it using the notion of orthogonality of bounded linear operators. We also illustrate with examples an alternative method of calculating the antieigenvalues and total antieigenvalues for finite dimensional operators.

The talk is based on a joint work with K. Paul.