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invariance of eigenvalues

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Author matte (1858) Entry type Definition Classification msc 15A18 Suppose M is a $n \times n$ matrix. In the following proposition when we say that "two matrices have the same spectra" we mean that the eigenvalues coincide including multiplicity.

1. If S is an invertible matrix, then M and $S^{-1}MS$ have the same spectra.