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Tajuk: Eigencircles of 2×2 matrices*
Penceramah: Graham Farr (Caulfield School of Information Technology,
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Tempat: MM3, INSTITUT SAINS MATEMATIK
Masa: 3:00 pm – 4:00 pm

Abstract

We show how to associate, to any real 2×2 matrix, a circle (which we call the eigencircle) that links properties of the eigenvalues and eigenvectors of the matrix to simple geometric properties of the circle. Insights given by the eigencircle include: pictures of real or complex eigenvalues, their eigenvectors, and the determinant; a geometric derivation of the angle between eigenvectors; a geometric proof that a real symmetric 2×2 matrix has perpendicular eigenvectors; a geometric proof that the product of real or complex eigenvalues is the determinant; and a geometric view of all 2×2 matrices with the same eigenvalues.

SEMUA DIJEMPUT HADIR

*This talk is based on joint work with M J Englefield.