

Sensitivity Analysis of Eigenvalue Problems

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Abstract

Sensitivity analysis of eigenvalue problems deals with the derivatives of the eigenvalues and eigenvectors of a matrix or matrix pencil depending on one or several parameters. The topic is of great importance in some engineering applications, for example, structural optimal design, model updating and structural damage detection. This talk will provide an review of the state of the art for sensitivity analysis of the algebraic eigenvalue problems. Some developments in both the theoretic and the algorithmic aspects are summarized.