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Eigenvalue Algorithm Based on a Combined Sturm Sequence and Inverse Iteration Technique (EASI)

The problem:

An accurate and efficient method is needed for solutions to eigenvalue problems.

The solution:

A computer program was developed for the computation of specified roots and associated vectors of the eigenvalue problem $Aq = \lambda Bq$ with band-symmetric A and B , B being positive definite.

How it's done:

The desired roots are first isolated by the Sturm sequence procedure. Then a special variant of the inverse iteration technique is applied for the individual determination of each root along with its vector.

Notes:

1. This program was written in FORTRAN V for the UNIVAC 1100-series computers.
2. Inquiries concerning this program should be directed to:

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