CASTS TALKS

Special Program in Applied Mathematics and Applied Mechanics

Continuation Methods for Computing Eigenpairs of Nonnegative Tensors

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In this talk, a homotopy continuation method for the computation of nonnegative Z-/H-eigenpairs of a nonnegative tensor is presented. We show that the homotopy continuation method is guaranteed to compute a nonnegative eigenpair. Additionally, using degree analysis, we show that the number of positive Z-eigenpairs of an irreducible nonnegative tensor is odd. A novel homotopy continuation method is proposed to compute an odd number of positive Z-eigenpairs, and some numerical results are presented.

