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Perron complement and Perron root. (English) Zbl 0999.15009
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For a nonnegative irreducible matrix A the well known Perron complement is generalized. The main theorem that describes the relation between the generalized Perron complement of A and its Perron root, i.e. the spectral radius $\rho(A)$ of A , is stated. On several examples, it is shown how the use of the theorem can improve both lower and upper bounds for $\rho(A)$. Combining the theorem with other known methods gives the algorithm for a computation of the value of $\rho(A)$.

Reviewer: [Jitka Drkošova \(Praha\)](#)

MSC:

- [15A18](#) Eigenvalues, singular values, and eigenvectors
- [15B48](#) Positive matrices and their generalizations; cones of matrices
- [65F15](#) Numerical computation of eigenvalues and eigenvectors of matrices

Cited in **10** Documents

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[Perron complement](#); [spectral radius](#); [Perron root](#); [algorithm](#)

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