Cavers, Michael; Fischer, Jonathan; van der Meulen, Kevin N.
Spectral properties of sign patterns. (English) Zbl 1440.15025

Summary: In this paper, an infinite family of irreducible sign patterns that are spectrally arbitrary, for which the nilpotent-Jacobian method does not apply, is given. It is demonstrated that it is possible for an irreducible sign pattern to be refined inertially arbitrary and not spectrally arbitrary. It is observed that not every nonzero spectrally arbitrary pattern has a signing which is spectrally arbitrary. It is also shown that every superpattern of the reducible pattern $T_2 \oplus T_2$ is spectrally arbitrary.

MSC:
15B35 Sign pattern matrices
15A29 Inverse problems in linear algebra
05C50 Graphs and linear algebra (matrices, eigenvalues, etc.)

Keywords:
sign pattern; nonzero pattern; spectrally arbitrary pattern; inertially arbitrary pattern; nilpotent-Jacobian method

Full Text: Link

References:
57(3):293-306, 2009. · Zbl 1168.15004


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