Linear Algebra and its Applications
Volume 608, 1 January 2021, Pages 236-247

Signed distance in signed graphs

Shahul K. Hameed [a] ✉, T.V. Shijin [b] ✉, P. Soorya [b] ✉, K.A. Germina [b] ✉, Thomas Zaslavsky [c] ✉

https://doi.org/10.1016/j.laa.2020.08.024

Abstract

Signed graphs have their edges labeled either as positive or negative. Here we introduce two types of signed distance matrix for signed graphs. We characterize balance in signed graphs using these matrices and we obtain explicit formulae for the distance spectrum of some unbalanced signed graphs. We also introduce the notion of distance-compatible signed graphs and partially characterize it.

Previous

Next

MSC

primary, 05C12; secondary, 05C22; 05C50; 05C75

Keywords

Signed graph; Signed distance matrix; Signed distance spectrum; Signed distance compatibility