عنوان مقاله:

Numerical ranges of even-order tensor

محل انتشار:

یازدهمین سمینار جبر خطی و کاربردهای آن (سال: 1400)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Mehri Pakmanesh - *Department of Mathematics, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran*.

Hamid Reza Afshin - *Department of Mathematics, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran*.

خلاصه مقاله:

In this paper, the numerical range of an even-order tensor is de ned using the norm of its square matrix unfolding. The basic properties of the numerical range of a matrix, such as compactness and convexity, are proved to hold for the numerical range of an even-order tensor. Also, we introduce normal tensors based on the contraction product. According to the Tucker decomposition, we get the numerical range of a normal tensor. Next, we introduce the singular-value decomposition (SVD) of an even-order tensor. Using this decomposition, we obtain the numerical range of such a tensor.

کلمات کلیدی:

Normal tensors, Numerical range, Toeplitz tensor, Unfolding operators, SVD de-composition, Even-order tensor.

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1618381