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2-switch: transition and stability on forests, and pseudoforests

Daniel A. Jaume*

Departamento de Matemáticas
Universidad Nacional de San Luis
San Luis, Argentina

Abstract

Given any two forests (pseudoforests) with the same degree sequence, we show in an algorithmic way that one can be transformed into the other by a finite sequence of 2-switches in such a way that all the intermediate graphs of the transformation are forests (pseudoforests). We also prove that the 2-switch operation perturbs minimally some well-known integer parameters in families of graphs with the same degree sequence. Then, we apply these results to conclude that the studied parameters have the “interval property” (a discrete analogous to intermediate value property) on forests (pseudoforests).

Joint work with:

Adrián Pastine¹

Vistor Schwöllner², Departamento de Matemáticas

Universidad Nacional de San Luis

San Luis, Argentina.

References

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¹e-mail: agpastine@unsl.edu.ar

²e-mail: svollner@unsl.edu.ar