BROKEN CIRCUITS IN MATROIDS – DOHMEN'S INDUCTIVE PROOF

Wojciech Kordecki

University of Busisness in Wrocaw
e-mail: wojciech.kordecki@handlowa.eu

Anna Łyczkowska-Hanćkowiak

Faculty of Informatics and Electronic Economy
Poznań University of Economic
e-mail: anna-lyczkowska-hanckowiak@ue.poznan.pl

A broken circuit of a matroid M arises from the set of a cycle of M by removing its maximum element with respect to some fixed linear ordering relation on the elements. Dohmen [2] gives a simple inductive proof of famous Whitney's broken ciruits theorem (see [1]) for graphs.

We consider this inductive proof in the case of matroids.

Keywords: Broken circuits, matroids, characteristic polynomials.
AMS Subject Classification: 05B35, 05C31.

References

[1] T. Brylawski, The broken circuit complex, Trans. Amer. Math. Soc. 234 (1977) 417–433.

[2] K. Dohmen, An inductive proof of Whitneys broken circuit theorem, arXiv:0912.1182v2 [math.CO] 2010.