

**Traldi, Lorenzo**

**Notes on a theorem of Naji.** (English) Zbl 1347.05096  
Discrete Math. 340, No. 1, 3217-3234 (2017).

Summary: We present a new proof of an algebraic characterization of circle graphs due to *W. Naji* [ibid. 54, 329–337 (1985; [Zbl 0567.05033](#))].

For bipartite graphs, Naji's theorem is equivalent to an algebraic characterization of planar matroids due to *J. Geelen* and *B. Gerards* [*J. Comb. Theory, Ser. B* 103, No. 5, 642–646 (2013; [Zbl 1408.05029](#))]. Naji's theorem also yields an algebraic characterization of permutation graphs.

**MSC:**

- [05C25](#) Graphs and abstract algebra (groups, rings, fields, etc.)
- [05C38](#) Paths and cycles
- [05B35](#) Combinatorial aspects of matroids and geometric lattices
- [05C10](#) Planar graphs; geometric and topological aspects of graph theory
- [52B40](#) Matroids in convex geometry (realizations in the context of convex polytopes, convexity in combinatorial structures, etc.)

Cited in **2** Documents

**Keywords:**

[circle graph](#); [graphic matroid](#); [permutation graph](#); [split decomposition](#)

**Full Text:** [DOI](#)

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