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Trilateral matroids induced by n_3 -configurations

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Abstract: We define a new class of a rank-3 matroid called a trilateral matroid. When defined, the ground set of such a matroid consists of the points of an n_3 -configuration, and its bases are the point triples corresponding to non-trilaterals within the configuration. We characterize which n_3 -configurations induce trilateral matroids and provide several examples.

Keywords: Configurations, trilaterals, matroids.

Math. Subj. Class.: 05B30, 51E30, 05C38, 05B35

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Tristranski matroidi, dobljeni iz n_3 -konfiguracij

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Povzetek: Definiramo nov razred matroidov ranga 3, ki jim pravimo tristranski matroidi. Osnovna množica takšnega matroida sestoji iz točk n_3 -konfiguracije, njena baza pa so trojice točk, ki ustrezajo ne-trikotnikom znotraj konfiguracije. Karakteriziramo n_3 -konfiguracije, ki inducirajo tristranske matroide, in podamo več primerov.

Ključne besede: Konfiguracije, trikotniki, matroidi.

Math. Subj. Class.: 05B30, 51E30, 05C38, 05B35

*Avtor se želi zahvaliti neznanemu recenzentu za predlog, da obravnava n_3 -konfiguracije kot potencialni vir za tristrane matroide.

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