אפקה
המכללה האקדמית להנדסה בתל-אביב
הנדסה גבוהה

סמינר מדעי היסוד

יום ראשון 8.5.2016 בשעה 9:00-9:50 בבנין מעבדות 055

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Assignment problems via tropical matrices

Abstract

The tropical semiring is the set of real numbers, together with $-\infty$ (resp. $+\infty$), equipped with the operations maximum (resp. minimum) and the usual plus. Its lack of additive inverses causes its "zero" to fail indicating singularity in the way the zero-element does in ring theory (indicating dependence, polynomial-roots, matrix invertibility, etc.).

Nevertheless, indicating singularity by multiple optimal solutions, enables to recover some well-known matrix identities. Optimization and transportation assignment problems may be studied via these identities, when assigning a graph with a tropical weight matrix.
We will present some identities of tropical compound matrices, and give their interpretations to the associated graph.

* Joint work with Prof. Stephane Gaubert and Prof. Marianne Akian.

מתאמים: פרופ' י. גולדמן, ד"ר ש. מיברג, פרופ' י. סטאנצ'סקו,
פרופ' ד. פישלוב וד"ר נ. רבין