

# Fractional solutions for NTU-games with applications to stable matching problems

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## Abstract

In this talk I will survey some applications of the Scarf algorithm. First I will introduce the notion of fractional core, which is always nonempty by the Scarf Lemma for finitely generated NTU-games. Stable allocation is a general solution concept for games where both the players and their possible cooperations may have capacities. Our main result is that, given a finitely generated NTU-game with capacities, we can always find a stable allocation by a variant of Scarf's algorithm. I will explain the meaning of these results in the context of stable matching problems, and finally I will show some experiments for the Hospitals Residents problem with couples. This is a joint work with Tamás Fleiner.

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