



Oberseminar

Monday, April 15, 2024, 18:00 c.t.

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Simpler and stronger approximation algorithms for flow time scheduling

Flow time measures the duration from release until completion of a job. It is one of the most natural, but also most notorious objectives in scheduling. A long-standing open question in the field was to obtain a polynomial time constant approximation for total weighted flow time on a single machine. This was recently solved in a combination of a tour-de-force of Batra, Garg, and Kumar and a clever instance reduction by Feige, Kulkarni, and Li. In joint work with Armbruster and Wiese, we improved this to a PTAS and recently also obtained a surprisingly simple constant approximation algorithm, which I will present. Afterwards, I will briefly discuss settings with several parallel machines and, in particular, recent joint work with Bansal and Svensson that points out connections to Discrepancy theory.

The Oberseminar takes place in the Seminarraum, 1st floor. Participants are invited to have coffee or tea in the lounge before.

S. Held, S. Hougardy, B. Korte, V. Traub, L. Vargas Koch, J. Vygen