

Oberseminar Theoretische Informatik
Sommersemester 2010

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Efficient Algorithms for Eulerian Extension

Do. 27.05.2010 um 16:00 (c.t.) im Seminarraum 3517 (Ernst-Abbe-Platz 2,
5. Stock).

Eulerian extension problems aim at making a given (directed) (multi-)graph Eulerian by adding a minimum-cost set of edges (arcs). These problems have natural applications in scheduling and routing and are closely related to the CHINESE POSTMAN and RURAL POSTMAN problems. Our main result is to show that the NP-hard WEIGHTED MULTIGRAPH EULERIAN EXTENSION is fixed-parameter tractable with respect to the total weight max of edges (arcs) to be added. The corresponding running time amounts to $O(4^k n^4)$. This implies a fixed-parameter tractability result for the „equivalent“ RURAL POSTMAN problem.

Homepage:

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