Oberseminar Theoretische Informatik
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Problem Kernels for NP-Complete Edge Deletion Problems: Split and Related Graphs

Mo, 10.12.2007 um 14 Uhr (c.t.) im SR 3319 (Ernst-Abbe-Platz 2, 3. Stock).

In an edge deletion problem one is asked to delete at most k edges from a given graph such that the resulting graph satisfies a certain property. In this work, we study four NP-complete edge deletion problems where the goal graph has to be a chain, a split, a threshold, or a co-trivially perfect graph, respectively. All these four graph classes are characterized by a common forbidden induced subgraph $2K_2$, that is, an independent pair of edges. We present the seemingly first non-trivial algorithmic results for these four problems, namely, four polynomial-time data reduction algorithms that achieve problem kernels containing $O(k^2)$, $O(k^4)$, $O(k^3)$, and $O(k^3)$ vertices, respectively.

Internetseite der Veranstaltung:
`http://theinf1.informatik.uni-jena.de/teaching/ws0708/oberseminar-ws0708`