

Oberseminar Theoretische Informatik
Sommersemester 2009

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**Algorithms and Experiments for Clique
Relaxations—Finding Maximum s -Plexes**

Mo, 27.04.2009 um 14 Uhr (c.t.) im SR 3319 (Ernst-Abbe-Platz 2, 3. Stock).

We propose new practical algorithms to find degree-relaxed variants of cliques called s -plexes. An s -plex denotes a vertex subset in a graph inducing a subgraph where every vertex has edges to all but at most s vertices in the s -plex. Cliques are 1-plexes. In analogy to the special case of finding maximum-cardinality cliques, finding maximum-cardinality s -plexes is NP-hard. Complementing previous work, we develop combinatorial, exact algorithms, which are strongly based on methods from parameterized algorithmics. The experiments with our freely available implementation indicate the competitiveness of our approach, for many real-world graphs outperforming the previously used methods.

Internetseite der Veranstaltung:

<http://theinf1.informatik.uni-jena.de/teaching/ss09/oberseminar-ss09>