DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
ODENSE UNIVERSITY

COMPUTER SCIENCE COLLOQUIUM

Polynomial Algorithms for the TSP and the QAP with a Factorial Domination Number

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The Seminar Room

Abstract: Glover and Punnen (1997) asked whether there exists a polynomial time algorithm that always produces a tour which is not worse than at least $n!/p(n)$ tours for some polynomial $p(n)$. They conjectured that, unless P=NP, the answer to this question is negative. We prove that the answer to this question is, in fact, positive. A generalization of the TSP, the quadratic assignment problem (QAP), is also considered with respect to the analogous question. Probabilistic, graph-theoretical and group-theoretical methods and results are used.

This is joint work with A. Yeo.

Jørgen Bang-Jensen