Computation of the disruption nucleolus of maintenance games *

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The disruption nucleolus (Littlechild and Vaidya, 1976) is a point-valued solution for balanced cooperative games. It measures the stability of a core allocation by the ratio of the potential losses a coalition and its complement coalition would suffer if a coalition disrupts the cooperation of all players. It is known that the disruption nucleolus can be considered as a specially weighted nucleolus, hence it can be computed by a sequence linear programmes.

We investigate the simplification possibilities in this computational scheme in a basic type of fixed tree cost allocation games, called maintenance games. We propose a polynomial time algorithm that computes the disruption nucleolus cost allocation directly from the parameters of the fixed tree maintenance problem.

*Based on a joint work with Jochen Staudacher.