Teijo Arponen, Samuli Piipponen, Jukka Tuomela: *Analysing singularities of a benchmark problem*; Helsinki University of Technology, Institute of Mathematics, Research Reports A508 (2006).

Abstract: *The purpose of this paper is to analyze the singularities of a well known benchmark problem "Andrews' squeezing mechanism". We show that for physically relevant parameter values this system admits singularities. The method is based on Gröbner bases computations and ideal decomposition. It is algorithmic and can thus be applied to study constraint singularities which arise in more general situations.*

AMS subject classifications: 70B15, 13P10, 70G25

Keywords: Multibody systems. Andrews squeezing mechanism. Ideal decomposition. Constraint singularities. Gröbner bases. Descriptor form. Angular coordinates.

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