**Joachim Schöberl, Rolf Stenberg**: *Multigrid methods for a stabilized Reissner-Mindlin plate formulation*; Helsinki University of Technology, Institute of Mathematics, Research Reports A512 (2006).

**Abstract:** We consider a stabilized finite element formulation for the Reissner-Mindlin plate bending model. The method, introduced in [18] uses standard bases functions for the deflection and rotation vector. Due to the stabilization the conditioning of the method is such that multigrid algorithms can readily been used. In the paper we first prove some error estimates needed for multigrid methods. Then we prove the a simple multigrid method has optimal complexity. Numerical results are also give.

AMS subject classifications: 65N30, 65N55, 74S05

 ${\bf Keywords:}$  Reissner-Mindlin plate, stabilized finite element method, multigrid method

Correspondence

 $js@jku.at,\,rolf.stenberg@tkk.fi$ 

ISBN-10 951-22-8457-X ISBN-13 978-951-22-8457-3

Helsinki University of TechnologyDepartment of Engineering Physics and MathematicsInstitute of MathematicsP.O. Box 1100, 02015 HUT, Finlandemail:math@hut.fi http://www.math.hut.fi/