Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student number\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Assignment 2 (2p)**

Derive the constitutive equations of the Kirchhoff plate model associated with the bending mode in polar coordinates . Start with the constitutive equations of the Reissner-Mindlin model

 and .

**Solution**

Kirchhoff constraints for the rotations can be deduced from the constitutive equations of shear forces:

  .

Elimination of the rotation variables from the constitutive equations of moments gives

 

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