

Assunto Seminar Next thursday
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Data 2016-05-10 3:53



Applied Mathematics and Numerical Analysis Seminar

12/05/2016, 15:00 — 16:00 — Room P3.10, Mathematics Building
Marília Pires, Departamento de Matemática, CIMA, Universidade de Évora

The Traceless Oldroyd viscoelastic model

In the traceless Oldroyd viscoelastic model, the viscoelastic extra stress tensor is decomposed into its traceless (deviatoric) and spherical parts, leading to a reformulation of the classical Oldroyd model. The equivalence of the two models is established comparing model predictions for simple test cases. The new model is validated using several 2D benchmark problems. The structure and behaviour of the new model are discussed and the future use of the new model is envisioned, both on the theoretical and numerical perspectives.

Work in collaboration with T. Bodnár.

References:

Bodnár, T., Pires, M. and Janela, J. (2014). Blood Flow Simulation Using Traceless Variant of Johnson-Segalman Viscoelastic Model. *Mathematical Modelling of Natural Phenomena* 9,(6), 117-141.

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