

LIST OF PUBLICATIONS, UPDATED TO January 2012

ELISABETTA ROCCA

1 Published papers on International Journals and on Scientific Volumes

1. E. ROCCA: *Asymptotic analysis of a conserved phase-field model with memory for vanishing time relaxation*, Adv. Math. Sci. Appl., **10** No. 2 (2000), 899–916.
2. E. ROCCA: *The conserved Penrose-Fife phase field model with special heat flux laws and memory effects*, J. Integral Equations Appl., **14** No. 4 (2002), 425–466.
3. E. ROCCA: *Some remarks on the conserved Penrose-Fife phase field model with memory effects*, in “Mathematical Models and Methods for Smart Materials”, M. Fabrizio, B. Lazzari, and A. Morro (ed.), Ser. Adv. Math. Appl. Sci., **62**, World Scientific Publishing Co. (2002), 313–322.
4. G. GILARDI, E. ROCCA: *Su un modello conservativo di tipo Penrose-Fife con condizioni di Neumann*, Istituto Lombardo (Rend. Sc.) A, **136-137** (2002–2003).
5. E. ROCCA, G. SCHIMPERNA: *The Conserved Penrose-Fife system with Fourier heat flux law*, Nonlinear Anal., **53** (2003), 1089–1100.
6. E. ROCCA, G. SCHIMPERNA: *Singular limits of a conserved Penrose-Fife phase field model with special heat flux laws and memory effects*, Asymptot. Anal., **36** No. 3–4 (2003), 285–301.
7. E. ROCCA: *The Conserved Penrose-Fife System with temperature-dependent memory*, J. Math. Anal. Appl., **287** No. 1 (2003), 177–199.
8. E. ROCCA: *Existence and uniqueness for the parabolic conserved phase field model with memory*, Commun. Appl. Anal., **8** No. 1 (2004), 27–46.
9. P. COLLI, G. GILARDI, E. ROCCA, G. SCHIMPERNA: *On a Penrose-Fife phase-field model with non-homogeneous Neumann boundary condition for the temperature*, Differential and Integral Equations, **17** No. 5–6 (2004), 511–534.
10. E. ROCCA, G. SCHIMPERNA: *Universal attractor for some singular phase transition systems*, Physica D, **192** (2004), 279–307.
11. E. ROCCA, G. SCHIMPERNA: *Universal attractor for a Penrose-Fife system with special heat flux law*, Mediterr. J. Math., **1** (2004), 109–121.
12. E. ROCCA: *Well-posedness and regularity for a parabolic-hyperbolic Penrose-Fife phase field system*, Appl. Math., **50** No. 5 (2005), 415–450.

13. A. LORENZI, E. ROCCA, G. SCHIMPERNA: *Direct and inverse problems for parabolic integro-differential systems of Caginalp type*, Adv. Math. Sci. Appl., **15** No. 1 (2005), 227–263.
14. M. FRÉMOND, E. ROCCA: *Well-posedness of a phase transition model with the possibility of voids*, Math. Models Methods Appl. Sci., **16** No. 4 (2006), 559–586.
15. E. ROCCA, G. SCHIMPERNA: *Global attractor for a parabolic-hyperbolic Penrose-Fife phase field system*, Discrete Contin. Dyn. Syst., **15** No. 4 (2006), 1192–1214.
16. P. COLLI, M. FRÉMOND, E. ROCCA, K. SHIRAKAWA: *Attractors for the 3D Frémond model of shape memory alloys*, Chinese Annals of Mathematics, Ser. B, **27** (2006), 683–700.
17. A. LORENZI, E. ROCCA: *Approximation of an inverse problem for a parabolic integro-differential system of Caginalp type*, in “Dissipative phase transitions” (ed. P. Colli, N. Kenmochi, J. Sprekels), Series on Advances in Mathematics for Applied Sciences, Vol. 71, World Sci. Publishing (2006), 151–176.
18. G. GILARDI, E. ROCCA: *Convergence of phase field to phase relaxation governed by the entropy balance with memory*, Math. Meth. Appl. Sci., **29** (2006), 2149–2179.
19. P. KREJČÍ, E. ROCCA, J. SPREKELS: *Nonlocal temperature-dependent phase-field models for non-isothermal phase transitions*, J. London Math. Soc., **76** No. 2 (2007), 197–210.
20. E. BONETTI, E. ROCCA: *Global existence and long-time behaviour for a singular integro-differential phase-field system*, Commun. Pure Appl. Anal, **6** (2007), 367–387.
21. A. LORENZI, E. ROCCA: *Weak solutions for the fully hyperbolic phase-field system of conserved type*, J. Evol. Equ., **7** (2007), 59–78.
22. P. KREJČÍ, E. ROCCA, J. SPREKELS: *A nonlocal phase-field model with nonconstant specific heat*, Interfaces Free Bound., **9** (2007), 285–306.
23. G. GILARDI, E. ROCCA: *Well posedness and long time behaviour for a singular phase field system of conserved type*, IMA J. Appl. Math., **72** (2007), 498–530.
24. E. BONETTI, M. FRÉMOND, E. ROCCA: *A new dual approach for a class of phase transitions with memory: existence and long-time behaviour of solutions*, J. Math. Pures Appl., **88** (2007), 455–481.
25. P. COLLI, P. KREJČÍ, E. ROCCA, J. SPREKELS: *Nonlinear evolution inclusions arising from phase change models*, Czech. Math. J., **57** (2007), 1067–1098.
26. A. LORENZI, E. ROCCA: *Identification of two memory kernels in a fully hyperbolic phase-field system*, J. Inverse Ill-Posed Probl., **16** (2008), 147–174.
27. E. ROCCA, R. ROSSI: *Analysis of a nonlinear degenerating PDE system for phase transitions in thermoviscoelastic materials*, J. Differential Equations, **245** (2008), 3327–3375.

28. E. ROCCA, R. ROSSI: *Global existence of strong solutions to the one-dimensional full model for phase transitions in thermoviscoelastic materials*, Appl. Math., **53** No. 5 (2008), 485–520.
29. M. FRÉMOND, E. ROCCA: *Solid liquid phase changes with different densities*, Quart. Appl. Math., **66** (2008), 609–632.
30. E. FEIREISL, H. PETZELTOVÀ, E. ROCCA: *Existence of solutions to some models of phase changes with microscopic movements*, Math. Meth. Appl. Sci., **32** (2009), 1345–1369.
31. P. KREJČÍ, E. ROCCA, J. SPREKELS: *A bottle in a freezer*, SIAM J. Math. Anal., **41** No. 5 (2009), 1851–1873.
32. P. KREJČÍ, E. ROCCA, J. SPREKELS: *Liquid-solid phase transitions in a deformable container*, contribution to the book “Continuous Media with Microstructure” on the occasion of Krzysztof Wilmanski’s 70th birthday, Springer (2010), 285–300.
33. E. FEIREISL, H. PETZELTOVÀ, E. ROCCA, G. SCHIMPERNA: *Analysis of a phase-field model for two-phase compressible fluids*, Math. Models Methods Appl. Sci., **20** No. 7 (2010), DOI: 10.1142/S0218202510004544.
34. M. FRÉMOND, E. ROCCA: *A model for shape memory alloys with the possibility of voids*, Discrete Contin. Dyn. Syst., **27** No. 4 (2010), 1633–1659.
35. P. KREJČÍ, E. ROCCA, J. SPREKELS: *Phase separation in a gravity field*, Discrete Contin. Dyn. Syst. Ser. S, **4**, No. 2 (2011), 391–407, doi:10.3934/dcdss.2011.4.391.
36. E. FEIREISL, E. ROCCA, G. SCHIMPERNA: *On a non-isothermal model for nematic liquid crystals*, Nonlinearity, **24** (2011), 243–257.
37. P. COLLI, P. KREJČÍ, E. ROCCA, J. SPREKELS: *A nonlocal quasilinear multi-phase system with nonconstant specific heat and heat conductivity*, J. Differential Equations, **251** (2011), 1354–1387.
38. D. HOEMBERG, E. ROCCA: *A model for resistance welding including phase transitions and Joule heating*, Math. Meth. Appl. Sci. 2011, **34**, 2077–2088.

2 Papers to appear on International Journals

39. H. PETZELTOVÁ, E. ROCCA, G. SCHIMPERNA, *On the long-time behavior of some mathematical models for nematic liquid crystals*, Calc. Var. DOI 10.1007/s00526-012-0496-1, to appear, preprint arXiv:0901.1751v2 (2011), 1–19.

3 Preprints

40. E. FEIREISL, M. FRÉMOND, E. ROCCA, G. SCHIMPERNA: *A new approach to non-isothermal models for nematic liquid crystals*, preprint arXiv:1104.1339v1 (2011), 1–21.
41. C. CAVATERRA, E. ROCCA, *On a 3D isothermal model for nematic liquid crystals accounting for stretching terms*, preprint arXiv:1107.3947v1 (2011), 1–14.

4 Editor of the volumes:

- V1 “New trends in direct, inverse, and control problems for evolution equations”, *Discrete Contin. Dyn. Syst. Ser. S*, **4**, No. 3 (2011), edited by P. Cannarsa, C. Cavaterra, A. Favini, A. Lorenzi, E. Rocca.

5 Theses

- L. E. ROCCA: *Analisi asintotica rispetto al parametro di rilassamento in tempo di un modello di campo di fase conservativo con memoria*, Tesi di Laurea, Università degli Studi di Pavia, 1999.
- D. E. ROCCA: *Some phase transition models of Penrose-Fife type*, PhD-Thesis, Università degli Studi di Pavia, 2003.