

Scientific Publications

Sergio Conti

Publications in refereed journals

- [1] *Dielectric screening in charged Bose versus Fermi liquids*, M. L. Chiofalo, S. Conti, and M. P. Tosi, *Mod. Phys. Lett. B* **8** (1994), 1207–1221.
- [2] *Dielectric response of the degenerate plasma of charged bosons in static-local-field approximations*, S. Conti, M. L. Chiofalo, and M. P. Tosi, *J. Phys.: Condens. Matter* **6** (1994), 8795–8807.
- [3] *Upper bounds on plasmon dispersion in the degenerate boson plasma*, M. L. Chiofalo, S. Conti, S. Stringari, and M. P. Tosi, *J. Phys.: Condens. Matter* **7** (1995), L85–L88.
- [4] *Monte Carlo simulations of the charged boson fluid at $T = 0$* , S. Moroni, S. Conti, and M. P. Tosi, *Phys. Rev. B* **53** (1996), 9688–9696.
- [5] *Plasmon dispersion and dynamic exchange–correlation potential from two–pair excitations in degenerate plasmas*, H. M. Böhm, S. Conti, and M. P. Tosi, *J. Phys.: Condens. Matter* **8** (1996), 781–797.
- [6] *Exchange–correlation potential for local density–functional theory of frequency–dependent linear response*, S. Conti, H. M. Böhm, and M. P. Tosi, *Phys. Stat. Sol (b)* **193** (1996), K11–K14.
- [7] *Sum rules for particle and density excitations in a superfluid of charged bosons*, M. L. Chiofalo, S. Conti, and M. P. Tosi, *J. Phys.: Condens. Matter* **8** (1996), 1921–1936.
- [8] *Collective modes and electronic spectral function in smooth edges of Quantum Hall systems*, S. Conti and G. Vignale, *Phys. Rev. B* **54** (1996), R14309–R14312. Preprint cond-mat/9608143.
- [9] *Electron correlation and charge transfer instability in bilayered two dimensional electron gas*, S. Conti and G. Senatore, *Europhys. Lett.* **36** (1996), 695–700. Preprint cond-mat/9609260.
- [10] *The internal energy and condensate fraction of a trapped interacting Bose gas*, A. Minguzzi, S. Conti, and M. P. Tosi, *J. Phys.: Condens. Matter* **9** (1997), L33–L38. Preprint cond-mat/9612190.
- [11] *Exchange–correlation potential for current density functional theory of frequency dependent linear response*, S. Conti, R. Nifosì, and M. P. Tosi, *J. Phys.: Condens. Matter* **9** (1997), L475–L482. Preprint cond-mat/9707062.
- [12] *Time-dependent density functional theory beyond the adiabatic local density approximation*, G. Vignale, C. A. Ullrich, and S. Conti, *Phys. Rev. Lett.* **79** (1997), 4878–4881. Preprint preprint cond-mat/9706306.
- [13] *Dynamic exchange–correlation potentials for the 2D electron gas*, R. Nifosì, S. Conti, and M. P. Tosi, *Physica E* **1** (1997), 188–190.
- [14] *Bosonization theory for tunneling spectra in smooth edges of Quantum Hall systems*, S. Conti and G. Vignale, *Physica E* **1** (1997), 101–104. Preprint cond-mat/9709055.

- [15] *Thermodynamics of a trapped interacting Bose gas*, M. Chiofalo, S. Conti, A. Minguzzi, and M. P. Tosi, *Balkan Physics Letters* **6** (1998), 1.
- [16] *Engineering superfluidity in electron-hole double layers*, S. Conti, G. Vignale, and A. H. MacDonald, *Phys. Rev. B* **57** (1998), R6846–R6849. Preprint cond-mat/9712305.
- [17] *Dynamics of the two-dimensional electron gas in the lowest Landau level: a continuum elasticity approach*, S. Conti and G. Vignale, *J. Phys.: Condens. Matter* **10** (1998), L779–786. Preprint cond-mat/9801318.
- [18] *Dynamic exchange-correlation potentials for the electron gas in dimensionality $D = 3$ and $D = 2$* , R. Nifosì, S. Conti, and M. P. Tosi, *Phys. Rev. B* **58** (1998), 12758–12769.
- [19] *Viscosity spectra of a dilute Bose fluid*, S. Conti, A. Minguzzi, and M. P. Tosi, *Phys. Lett. A* **250** (1998), 177–184.
- [20] *Elasticity of an electron liquid*, S. Conti and G. Vignale, *Phys. Rev. B* **60** (1999), 7966–7980. Preprint preprint cond-mat/9811214.
- [21] *Novel electron gas systems*, G. Senatore, F. Rapisarda, and S. Conti, *Int. J. Mod. Phys. B* **13** (1999), 479–488.
- [22] *Dynamical correlations in a half-filled Landau level*, S. Conti and T. Chakraborty, *Phys. Rev. B* **59** (1999), 2867–2870.
- [23] *Branched microstructures: scaling and asymptotic self-similarity*, S. Conti, *Comm. Pure Appl. Math.* **53** (2000), 1448–1474.
- [24] *Rigorous bounds for the Föppl-von Kármán theory of isotropically compressed plates*, H. Ben Belgacem, S. Conti, A. DeSimone, and S. Müller, *J. Nonlinear Sci.* **10** (2000), 661–683.
- [25] *Surface structure of domain walls: a continuum elasticity approach*, S. Conti and E. K. Salje, *J. Phys.: Condens. Matter* **13** (2001), L847–L854.
- [26] *Soft elastic response of stretched sheets of nematic elastomers: a numerical study*, S. Conti, A. DeSimone, and G. Dolzmann, *J. Mech. Phys. Solids* **50** (2002), 1431–1451.
- [27] *A Γ -convergence result for the two-gradient theory of phase transitions*, S. Conti, I. Fonseca, and G. Leoni, *Comm. Pure Appl. Math.* **55** (2002), 857–936.
- [28] *Energy scaling of compressed elastic films – three-dimensional elasticity and reduced theories*, H. Ben Belgacem, S. Conti, A. DeSimone, and S. Müller, *Arch. Rat. Mech. Anal.* **164** (2002), 1–37.
- [29] *Semi-soft elasticity and director reorientation in stretched sheets of nematic elastomers*, S. Conti, A. DeSimone, and G. Dolzmann, *Phys. Rev. E* **66** (2002), 061710.
- [30] *Some remarks on the theory of elasticity for compressible neohookean materials*, S. Conti and C. DeLellis, *Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5)* **2** (2003), 521–549.
- [31] *Polyconvexity equals rank-one convexity for connected isotropic sets in $M^{2 \times 2}$* , S. Conti, C. D. Lellis, S. Müller, and M. Romeo, *C. R. Acad. Sci. Paris, Ser. I* **337** (2003), 233–238.

- [32] *Interaction between free boundaries and domain walls in ferroelastics*, S. Conti and U. Weikard, *Eur. Phys. J. B* **41** (2004), 413–420.
- [33] *Energetics and switching of quasi-uniform states in small ferromagnetic particles*, F. Alouges, S. Conti, A. DeSimone, and Y. Pokern, *ESAIM Math. Model. Numer. Anal.* **38** (2004), 235–248.
- [34] *Crystal symmetry and reversibility of martensitic transformations*, K. Bhattacharya, S. Conti, G. Zanzotto, and J. Zimmer, *Nature* **428** (2004), 55–59.
- [35] *A variational model for reconstructive phase transformations in crystals, and their relation to dislocations and plasticity*, S. Conti and G. Zanzotto, *Arch. Rat. Mech. Anal.* **173** (2004), 69–88.
- [36] *Monte Carlo simulations of two-dimensional charged bosons*, S. De Palo, S. Conti, and S. Moroni, *Phys. Rev. B* **69** (2004), 035109.
- [37] *Self-similar folding patterns and energy scaling in compressed elastic sheets*, S. Conti, A. DeSimone, and S. Müller, *Comp. Meth. Appl. Mech. Eng.* **194** (2005), 2534–2549.
- [38] *Dislocation microstructures and the effective behavior of single crystals*, S. Conti and M. Ortiz, *Arch. Rat. Mech. Anal.* **176** (2005), 103–147.
- [39] *A new approach to counterexamples to L^1 estimates: Korn’s inequality, geometric rigidity, and regularity for gradients of separately convex functions*, S. Conti, D. Faraco, and F. Maggi, *Arch. Rat. Mech. Anal.* **175** (2005), 287–300.
- [40] *Single-slip elastoplastic microstructures*, S. Conti and F. Theil, *Arch. Rat. Mech. Anal.* **178** (2005), 125–148.
- [41] *Rank-one convex functions on 2×2 symmetric matrices and laminates on rank-three lines*, S. Conti, D. Faraco, F. Maggi, and S. Müller, *Calc. Var. PDE* **24** (2005), 479–493.
- [42] *A lower bound for a variational model for pattern formation in shape-memory alloys*, S. Conti, *Cont. Mech. Thermod.* **17** (2006), 469–476.
- [43] *A sharp-interface limit for a two-well problem in geometrically linear elasticity*, S. Conti and B. Schweizer, *Arch. Rat. Mech. Anal.* **179** (2006), 413–452.
- [44] *Coarsening rates in off-critical mixtures*, S. Conti, B. Niethammer, and F. Otto, *SIAM J. Math. Anal.* **37** (2006), 1732–1741.
- [45] *Rigidity and Gamma convergence for solid-solid phase transitions with $SO(2)$ -invariance*, S. Conti and B. Schweizer, *Comm. Pure Appl. Math.* **59** (2006), 830–868.
- [46] *Sufficient conditions for the validity of the Cauchy-Born rule close to $SO(n)$* , S. Conti, G. Dolzmann, B. Kirchheim, and S. Müller, *J. Eur. Math. Soc. (JEMS)* **8** (2006), 515–530.
- [47] *A recursive-faulting model of distributed damage in confined brittle materials*, A. Pandolfi, S. Conti, and M. Ortiz, *J. Mech. Phys. Solids* **54** (2006), 1972–2003.
- [48] *Rigorous derivation of Föppl’s theory for clamped elastic membranes leads to relaxation*, S. Conti, F. Maggi, and S. Müller, *SIAM J. Math. Anal.* **38** (2006), 657–680.

- [49] *Nonuniversality in low-volume-fraction Ostwald ripening*, S. Conti, A. Höning, B. Niethammer, and F. Otto, *J. Stat. Phys.* **124** (2006), 231–259.
- [50] *Soft elasticity and microstructure in smectic C elastomers*, J. Adams, S. Conti, and A. DeSimone, *Cont. Mech. Thermodyn.* **18** (2007), 319–334.
- [51] *Concurrent multiscale computing of deformation microstructure by relaxation and local enrichment with application to single-crystal plasticity*, S. Conti, P. Hauret, and M. Ortiz, *Multiscale Modeling and Simulation* **6** (2007), 135–157.
- [52] *Sharp upper bounds for a variational problem with singular perturbation*, S. Conti and C. D. Lellis, *Math. Ann.* **338** (2007), 119–146.
- [53] *Modeling and simulation of magnetic shape-memory polymer composites*, S. Conti, M. Lenz, and M. Rumpf, *J. Mech. Phys. Solids* **55** (2007), 1462–1486.
- [54] *Derivation of a plate theory for incompressible materials*, S. Conti and G. Dolzmann, *Comptes Rendus Mathematique* **344** (2007), 541–544.
- [55] *Existence of Lipschitz minimizers for the three-well problem in solid-solid phase transitions*, S. Conti, G. Dolzmann, and B. Kirchheim, *Ann. I. H. Poincaré (C) Non Linear Analysis* **24** (2007), 953–962.
- [56] *Improved bounds for composites and rigidity of gradient fields*, N. Albin, S. Conti, and V. Nesi, *Proc. R. Soc. London A* **463** (2007), 2031–2048.
- [57] *Confining thin elastic sheets and folding paper*, S. Conti and F. Maggi, *Arch. Rat. Mech. Anal.* **187** (2008), 1–48.
- [58] *Relaxation of some transversally isotropic energies and applications to smectic A elastomers*, J. Adams, S. Conti, A. DeSimone, and G. Dolzmann, *Math. Mod. Meth. Appl. Sci.* **18** (2008), 1–20.
- [59] *Ground state energy scaling laws during the onset and destruction of the intermediate state in a type-I superconductor*, R. Choksi, S. Conti, R. V. Kohn, and F. Otto, *Comm. Pure Appl. Math.* **61** (2008), 595–626.
- [60] *Macroscopic behaviour of magnetic shape-memory polycrystals and polymer composites*, S. Conti, M. Lenz, and M. Rumpf, *Mat. Sci. Engrg. A* **481-482** (2008), 351–355.
- [61] *Minimum principles for the trajectories of systems governed by rate problems*, S. Conti and M. Ortiz, *J. Mech. Phys. Solids* **56** (2008), 1885–1904.
- [62] *Quasiconvex functions incorporating volumetric constraints are rank-one convex*, S. Conti, *J. Math. Pures Appliques* **90** (2008), 15–30.
- [63] *Mixed analytical-numerical relaxation in finite single-slip crystal plasticity*, C. Carstensen, S. Conti, and A. Orlando, *Cont. Mech. Thermod.* **20** (2008), 275–301.
- [64] Γ -convergence for incompressible elastic plates, S. Conti and G. Dolzmann, *Calc. Var. PDE* **34** (2009), 531–551.
- [65] *Infinite-order laminates in a model in crystal plasticity*, N. Albin, S. Conti, and G. Dolzmann, *Proc. Roy. Soc. Edinburgh A* **139** (2009), 685–708.

- [66] *Relaxation of a class of variational models in crystal plasticity*, S. Conti, G. Dolzmann, and C. Klust, Proc. Roy. Soc. London A **465** (2009), 1735–1742.
- [67] *Shape optimization under uncertainty – a stochastic programming perspective*, S. Conti, H. Held, M. Pach, M. Rumpf, and R. Schultz, SIAM J. Optim. **19** (2009), 1610–1632.
- [68] *Multiwell rigidity in nonlinear elasticity*, M. Chermisi and S. Conti, SIAM J. Math. Analysis **42** (2010), 1986–2012.
- [69] *Asymptotic behavior of crystal plasticity with one slip system in the limit of rigid elasticity*, S. Conti, G. Dolzmann, and C. Kreisbeck, SIAM J. Math. Anal. **43** (2011), 2337–2353.
- [70] *Risk averse shape optimization*, S. Conti, H. Held, M. Pach, M. Rumpf, and R. Schultz, SIAM J. Control and Optim. **49** (2011), 927–947.
- [71] *On scalar metrics that maximize geodesic distances in the plane*, S. Conti and B. Schweizer, Calc. Var. PDE **41** (2011), 151–177.
- [72] *Coupling of order parameters, chirality, and interfacial structures in multiferroic materials*, S. Conti, S. Müller, A. Poliakovsky, and E. K. H. Salje, J. Phys.: Condens. Matter **23** (2011), 142203.
- [73] *Singular kernels, multiscale decomposition of microstructure, and dislocation models*, S. Conti, A. Garroni, and S. Müller, Arch. Rat. Mech. Anal. **199** (2011), 779–819. Preprint arXiv:1003.1917.
- [74] *The div-curl lemma for sequences whose divergence and curl are compact in $W^{-1,1}$* , S. Conti, G. Dolzmann, and S. Müller, Comptes Rendus Math. **349** (2011), 175–178. Preprint arXiv:0907.0397.
- [75] *Modeling and simulation of large microstructured particles in magnetic-shape-memory*, S. Conti, M. Lenz, and M. Rumpf, Advanced Engineering Materials **14** (2012), 582–588.
- [76] *Relaxation and microstructure in a model for finite crystal plasticity with one slip system in three dimensions*, S. Conti, G. Dolzmann, and C. Kreisbeck, Disc. Cont. Dyn. Systems S **6** (2013), 1–16.
- [77] *Relaxation of a model in finite plasticity with two slip systems*, S. Conti, G. Dolzmann, and C. Kreisbeck, Math. Models Methods Appl. Sci. **23** (2013), 2111–2128.
- [78] *A Γ -convergence analysis of the quasicontinuum method*, M. I. Espanol, D. M. Kochmann, S. Conti, and M. Ortiz, Multiscale Model. Simul. **11** (2013), 766–794.
- [79] *Optimal scaling laws for ductile fracture derived from strain-gradient microplasticity*, L. Fokoua, S. Conti, and M. Ortiz, J. Mech. Phys. Solids **62** (2014), 295–311.
- [80] *Optimal scaling in solids undergoing ductile fracture by void sheet formation*, L. Fokoua, S. Conti, and M. Ortiz, Arch. Ration. Mech. Anal. **212** (2014), 331–357.
- [81] *Kinematic description of crystal plasticity in the finite kinematic framework: a micromechanical understanding of $F = F^e F^p$* , C. Reina and S. Conti, J. Mech. Phys. Solids **67** (2014), 40–61. Preprint arXiv:1312.2904.

- [82] *Korn's second inequality and geometric rigidity with mixed growth conditions*, S. Conti, G. Dolzmann, and S. Müller, *Calc Var PDE* **50** (2014), 437–454. Preprint arXiv:1203.1138.
- [83] *Relaxation of a model energy for the cubic to tetragonal phase transformation in two dimensions*, S. Conti and G. Dolzmann, *Math. Models. Methods App. Sci.* **24** (2014), 2929–2942.
- [84] *A micromechanical damage and fracture model for polymers based on fractional strain-gradient elasticity*, S. Heyden, B. Li, K. Weinberg, S. Conti, and M. Ortiz, *J. Mech. Phys. Solids* **74** (2015), 175–195.
- [85] *The line-tension approximation as the dilute limit of linear-elastic dislocations*, S. Conti, A. Garroni, and M. Ortiz, *Arch. Ration. Mech. Anal.* **218** (2015), 699–755.
- [86] *Energy scaling and branched microstructures in a model for shape-memory alloys with $SO(2)$ invariance*, A. Chan and S. Conti, *Math. Models. Methods App. Sci.* **25** (2015), 1091–1124.
- [87] *A nonlocal model of fracture by crazing in polymers*, S. Heyden, S. Conti, and M. Ortiz, *Mech. Materials* **90** (2015), 131–139.
- [88] *Modeling of dislocations and relaxation of functionals on 1-currents with discrete multiplicity*, S. Conti, A. Garroni, and A. Massaccesi, *Calc. Var. PDE* **54** (2015), 1847–1874.
- [89] *On the theory of relaxation in nonlinear elasticity with constraints on the determinant*, S. Conti and G. Dolzmann, *Arch. Ration. Mech. Anal.* **217** (2015), 413–437.
- [90] *A line-tension model of dislocation networks on several slip planes*, S. Conti and P. Gladbach, *Mechanics of Materials* **90** (2015), 140–147.
- [91] *A BV functional and its relaxation for joint motion estimation and image sequence recovery*, S. Conti, J. Ginster, and M. Rumpf, *ESAIM: Mathematical Modelling and Numerical Analysis* **49** (2015), 1463–1487. Preprint arXiv:1504.01998.
- [92] *Low volume-fraction microstructures in martensites and crystal plasticity*, S. Conti and B. Zwicknagl, *Math. Models Methods App. Sci.* **26** (2016), 1319–1355.
- [93] *Phase field approximation of cohesive fracture models*, S. Conti, M. Focardi, and F. Iurlano, *Annales de l'Institut Henri Poincaré / Analyse non linéaire* **33** (2016), 1033–1067.
- [94] *Derivation of $F = F_e F_p$ as the continuum limit of crystalline slip*, C. Reina, A. Schlömerkemper, and S. Conti, *J. Mech. Phys. Solids* **89** (2016), 231–254. Preprint arXiv:1504.06775.
- [95] *Branched microstructures in the Ginzburg-Landau model of type-I superconductors*, S. Conti, F. Otto, and S. Serfaty, *SIAM J. Math. Anal.* **48** (2016), 2994–3034.
- [96] *Korn-Poincaré inequalities for functions with a small jump set*, A. Chambolle, S. Conti, and G. Francfort, *Indiana Univ. Math. J.* **65** (2016), 1373–1399.

- [97] *Optimal scaling in solids undergoing ductile fracture by crazing*, S. Conti and M. Ortiz, Arch. Rat. Mech. Anal. **219** (2016), 607–636.
- [98] *Relaxation in crystal plasticity with three active slip systems*, S. Conti and G. Dolzmann, Cont. Mech. Thermodyn. **28** (2016), 1477–1494.
- [99] *An analytical model of interfacial energy based on a lattice-matching interatomic energy*, B. Runnels, I. Beyerlein, S. Conti, and M. Ortiz, J. Mech. Phys. Solids **89** (2016), 174–193.
- [100] *A relaxation method for the energy and morphology of grain boundaries and interfaces*, B. Runnels, I. Beyerlein, S. Conti, and M. Ortiz, J. Mech. Phys. Solids **94** (2016), 388–408.
- [101] *Dislocation microstructures and strain-gradient plasticity with one active slip plane*, S. Conti, A. Garroni, and S. Müller, J. Mech. Phys. Solids **93** (2016), 240–251.
- [102] *Hysteresis in magnetic shape memory composites: modeling and simulation*, S. Conti, M. Lenz, and M. Rumpf, J. Mech. Phys. Solids **89** (2016), 272–286. Preprint arXiv:1502.05608.
- [103] *Existence of minimizers for the 2d stationary Griffith fracture model*, S. Conti, M. Focardi, and F. Iurlano, C. R. Acad. Sci. Paris, Ser. I **354** (2016), 1055–1059.
- [104] *Density of polyhedral partitions*, A. Braides, S. Conti, and A. Garroni, Calc. Var. Part. Diff. Eq. **56** (2017), no. 2, 28.
- [105] *Integral representation for functionals defined on SBD^p in dimension two*, S. Conti, M. Focardi, and F. Iurlano, Arch. Ration. Mech. Anal. **223** (2017), no. 3, 1337–1374, Preprint arXiv:1510.00145.
- [106] *Symmetry breaking in indented elastic cones*, S. Conti, H. Olbermann, and I. Tobiasco, Journal of Nonlinear Science **27** (2017), 453–494.
- [107] *Energy bounds for a compressed elastic film on a substrate*, D. Bourne, S. Conti, and S. Müller, J. Nonlinear Science **27** (2017), 453–494, preprint arXiv:1512.07416.
- [108] *Deformation concentration for martensitic microstructures in the limit of low volume fraction*, S. Conti, J. Diermeier, and B. Zwicknagl, Calc. Var. PDE **56** (2017), 16.
- [109] *Piecewise affine stress-free martensitic inclusions in planar nonlinear elasticity*, S. Conti, M. Klar, and B. Zwicknagl, Proc. Roy. Soc. A **473** (2017), 20170235.
- [110] *Incompressible inelasticity as an essential ingredient for the validity of the kinematic decomposition $F = F^e F^i$* , C. Reina and S. Conti, J. Mech. Phys. Solids **107** (2017), 322–342.
- [111] *Which special functions of bounded deformation have bounded variation?*, S. Conti, M. Focardi, and F. Iurlano, Proc. Roy. Soc. Edinb. A **148** (2018), 33–50. Preprint arXiv 1502.07464.
- [112] *The anomalous yield behavior of fused silica glass*, W. Schill, S. Heyden, S. Conti, and M. Ortiz, Journal of the Mechanics and Physics of Solids **113** (2018), 105 – 125.

- [113] *Approximation of a brittle fracture energy with a constraint of non-interpenetration*, A. Chambolle, S. Conti, and G. A. Francfort, Arch. Ration. Mech. Anal. **228** (2018), 867–889.
- [114] *A branched transport limit of the Ginzburg-Landau functional*, S. Conti, M. Goldman, F. Otto, and S. Serfaty, Journal de l'École polytechnique – Mathématiques **5** (2018), 317–375. Preprint arXiv:1704.02764.
- [115] *An adaptive relaxation algorithm for multiscale problems and application to nematic elastomers*, S. Conti and G. Dolzmann, J. Mech. Phys. Solids **113** (2018), 126–143.
- [116] *Data-driven problems in elasticity*, S. Conti, S. Müller, and M. Ortiz, Arch. Ration. Mech. Anal. **229** (2018), 79–123. Preprint arXiv:1708.02880.
- [117] *Stochastic dominance constraints in elastic shape optimization*, S. Conti, M. Rumpf, R. Schultz, and S. Tölkes, SIAM J. Control Optim. **56** (2018), 3021–3034. Preprint arXiv:1606.09461.

Conference proceedings and contributions to books

- [C1] *Dielectric response and momentum distribution of the degenerate plasma of charged bosons*, S. Moroni, S. Conti, and M. P. Tosi, Physics of Strongly Coupled Plasmas (Singapore) (W. D. Kraeft and M. Schlanges, eds.), World Scientific, 1995, p. 419.
- [C2] *Exchange-correlation potentials in the electron gas*, S. Conti, R. Nifosì, and M. P. Tosi, Proceedings of the International Conference on Strongly Coupled Coulomb Systems (New York) (G. J. Kalman, ed.), Plenum, 1997.
- [C3] *Asymptotic self similarity in a model of branching in microstructured materials*, S. Conti, Proceedings of the Equadiff 99 conference held in Berlin, August 1999, World Scientific, 2000.
- [C4] *Multiscale modeling of materials – the role of analysis*, S. Conti, A. DeSimone, G. Dolzmann, S. Müller, and F. . Otto, Trends in Nonlinear Analysis (Heidelberg) (M. Kirkilionis, S. Krömker, R. Rannacher, and F. Tomi, eds.), Springer, 2002, pp. 375–408.
- [C5] *Relaxation and the computation of effective energies and microstructures in solid mechanics*, S. Bartels, C. Carstensen, S. Conti, K. Hackl, U. Hoppe, and A. Orlando, Analysis, Modeling and Simulation of Multiscale Problems (A. Mielke, ed.), Springer, 2006, pp. 197–224.
- [C6] *Derivation of elastic theories for thin sheets and the constraint of incompressibility*, S. Conti and G. Dolzmann, Analysis, Modeling and Simulation of Multiscale Problems (A. Mielke, ed.), Springer, 2006, pp. 225–247.
- [C7] *Relaxation of single-slip single-crystal plasticity with linear hardening*, S. Conti, Multiscale Materials Modeling (Freiburg) (P. Gumbsch, ed.), Fraunhofer IRB, 2006, pp. 30–35.
- [C8] *On the numerical relaxation of single-slip plasticity in finite strains*, C. Carstensen, S. Conti, and A. Orlando, PAMM **6** (2006), 469–470.

- [C9] *Gamma convergence for phase transitions in impenetrable elastic materials*, S. Conti and B. Schweizer, Multi scale problems and asymptotic analysis, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 24, Gakkōtoshō, Tokyo, 2006, pp. 105–118.
- [C10] *Geometrically nonlinear models in crystal plasticity and the limit of rigid elasticity*, S. Conti, G. Dolzmann, and C. Kreisbeck, PAMM **10** (2010), 3–6.
- [C11] *h-principle and rigidity for $C^{1,\alpha}$ isometric embeddings*, S. Conti, C. De Lellis, and L. Székelyhidi, Nonlinear Partial Differential Equations (H. Holden and K. H. Karlsen, eds.), Abel Symposia, vol. 7, Springer Berlin Heidelberg, 2012, pp. 83–116. Preprint arXiv:0905.0370.
- [C12] *On shape optimization with stochastic loadings*, P. Atwal, S. Conti, B. Geihe, M. Pach, M. Rumpf, and R. Schultz, Constrained Optimization and Optimal Control for Partial Differential Equations (G. Leugering, S. Engell, A. Griewank, M. Hinze, R. Rannacher, V. Schulz, M. Ulbrich, and S. Ulbrich, eds.), International Series of Numerical Mathematics, vol. 160, Springer, 2012, pp. 215–243.
- [C13] *Energy scaling and domain branching in solid-solid phase transitions*, A. Chan and S. Conti, Singular Phenomena and Scaling in Mathematical Models (M. Griebel, ed.), Springer, 2014, pp. 243–262.
- [C14] *Two-stage stochastic optimization meets two-scale simulation*, S. Conti, B. Geihe, M. Rumpf, and R. Schultz, Trends in PDE Constrained Optimization (G. Leugering, P. Benner, S. Engell, A. Griewank, H. Harbrecht, M. Hinze, R. Rannacher, and S. Ulbrich, eds.), International Series of Numerical Mathematics, vol. 165, Springer International Publishing, 2014, pp. 193–211.
- [C15] *Variational modeling of slip: from crystal plasticity to geological strata*, S. Conti, G. Dolzmann, and C. Kreisbeck, Analysis and computation of microstructure in finite plasticity (S. Conti and K. Hackl, eds.), Lecture Notes in Applied and Computational Mechanics, vol. 78, Springer, 2015, pp. 31–62.
- [C16] *Folding patterns in partially delaminated thin films*, D. Bourne, S. Conti, and S. Müller, Innovative numerical approaches for multi-field and multi-scale problems (A. Pandolfi and K. Weinberg, eds.), Lecture Notes in Applied and Computational Mechanics, vol. 81, 2016, pp. 25–39.
- [C17] *Some recent results on the convergence of damage to fracture*, S. Conti, M. Forcardi, and F. Iurlano, Rend. Lincei Mat. Appl. **27** (2016), 51–60.
- [C18] *Analytical and numerical tools for relaxation in crystal plasticity*, S. Conti and G. Dolzmann, Procedia {IUTAM} **20** (2017), 56 – 65, 24th International Congress of Theoretical and Applied Mechanics.
- [C19] *Homogenization of vector-valued partition problems and dislocation cell structures in the plane*, S. Conti, A. Garroni, and S. Müller, Boll. Unione Mat. Ital. **10** (2017), 3–17.
- [C20] *Variational modeling of dislocations in crystals in the line-tension limit*, P. Ariza, S. Conti, A. Garroni, and M. Ortiz, European Congress of Mathematics, Berlin, 2016 (V. Mehrmann and M. Skutella, eds.), EMS, 2018, pp. 583–598.
- [C21] *Homogenization in magnetic-shape-memory polymer composites*, S. Conti, M. Lenz, M. Pawelczyk, and M. Rumpf, Shape Optimization, Homogenization and Optimal Control (V. Schulz and D. Seck, eds.), International Series

of Numerical Mathematics, vol. 169, Birkhuser, Cham, 2018, pp. 1–17. Preprint arXiv:1711.06098.

Preprints

- [P1] *Existence theorem for the Griffith static fracture model in dimension two*, S. Conti, M. Focardi, and F. Iurlano, preprint arXiv:1611.03374 (2018), <https://doi.org/10.1016/j.anihpc.2018.06.003>.
- [P2] *Approximation of fracture energies with p -growth via piecewise affine finite elements*, S. Conti, M. Focardi, and F. Iurlano, ESAIM COCV, to appear, preprint arXiv:1706.01735 (2017).
- [P3] *Approximation of functions with small jump sets and existence of strong minimizers of griffith's energy*, A. Chambolle, S. Conti, and F. Iurlano, arXiv preprint arXiv:1710.01929 (2017).
- [P4] *A posteriori modeling error estimates in the optimization of two-scale elastic composite materials*, S. Conti, B. Geihe, M. Lenz, and M. Rumpf, ESAIM: Mathematical Modelling and Numerical Analysis (2017).
- [P5] *A note on the Hausdorff dimension of the singular set of solutions to elasticity type systems*, S. Conti, M. Focardi, and F. Iurlano, preprint arXiv:1804.09945 (2018).