

CURRICULUM VITAE E STUDIORUM DI ANTONIO MASIELLO

INTERESSI DI RICERCA:

Analisi Nonlineare, Teoria dei Punti critici, Analisi Geometrica sulle varietà di Lorentz ed applicazioni alla Relatività Generale

EDUCAZIONE:

Laureato in Matematica nel 1986, presso l'Università degli Studi di Bari con il voto di 110/110 e lode.

P.H.D. in Matematica nel 1992 presso l'Università di Pisa, Supervisor il professor Vieri Benci

CARRIERA:

Borsista di Dottorato dal 1987 al 1991.

Ricercatore di Analisi Matematica, Novembre 1991--Ottobre 1998.

Professore Associato di Analisi Matematica, Novembre 1998 - febbraio 2002.

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ATTIVITA' ACCADEMICHE:

Direttore del Dipartimento di Matematica del Politecnico di Bari, Gennaio 2004-Settembre 2009.

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ELENCO DELLE PUBBLICAZIONI

Monografie

1) **A.MASIELLO**: “*Variational Methods in Lorentzian Geometry*”. Pitman Research Notes in Mathematics Vol. **309**. Longman Editions, London 1994.

Curatela di atti di convegni

2) **B.Casciaro, D. Fortunato, M. Francaviglia, A. MASIELLO** (Editors): “*Recent Developments in General Relativity*”, Proceedings of the 13th Italian Conference on General Relativity and Gravitational Physics Monopoli, September 21—25, 1998. Springer Verlag, Milano, 2000.

3) **V. Benci, A. MASIELLO** (Editors): “*Nonlinear Analysis and applications to Physical Sciences*”, Lecture Notes of the summer school at S.Momm'e (Pistoia), May 2—12, 2002. Springer Verlag, Milano, 2004.

Articoli di ricerca

4) **A. MASIELLO, L. Pisani**, On the existence of a time-like periodic geodesic for a time-dependent Lorentz metric, *Annali dell' Universit'a di Ferrara Sezione VII Scienze Matematiche* Vol. **XXXVI**, pp. 207-222 (1990).

5) **F.Giannoni, A.MASIELLO**, On the existence of geodesics in stationary Lorentz manifolds with convex boundary, *Journal of Functional Analysis* Vol. **101**, pp. 340-369 (1991).

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7) **V.Benci, A.MASIELLO**, A Morse index for geodesics in static Lorentz manifolds, *Matematische Annalen* Vol. **293**, pp. 433-442 (1992).

8) **A.MASIELLO**, On the existence of a closed geodesic in stationary Lorentz manifold, *Journal of Differential Equations* Vol. **104**, pp. 48-59 (1993).

9) **F.Giannoni, A.MASIELLO**, Geodesics on Lorentzian manifolds with quasi-convex boundary, *Manuscripta Mathematica* Vol. **78**, pp. 381-396 (1993).

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11) **V.Benci, D.Fortunato, A.MASIELLO**, On the geodesic connectedness of Lorentzian manifolds, *Matematische Zeitschrift* Vol. **217**, pp.73-93 (1994).

12) **A. MASIELLO**, Convex regions in Lorentzian manifolds, *Annali di Matematica Pura ed Applicata (IV)}* Vol. **CLXVII**, pp. 299-322 (1994).

13) **D. Fortunato, F. Giannoni, A. MASIELLO**, A Fermat principle for stationary space-times with applications to light rays, *Journal of Geometry and physics* Vol. **15**, pp. 159-188 (1995).

14) **F.Giannoni, A. MASIELLO** Geodesics on product Lorentzian manifolds, *Annales de l'Institut Henri Poincarè, Analyse Nonlinèaire*, Vol. **12**, pp. 27-60 (1995).

15) **F. GIANNONI, A. MASIELLO**, On a variational theory of light rays on Lorentzian manifolds, *Rendiconti Accademia Nazionale dei Lincei Serie IX* Vol. **6**, pp. 155-159 (1995).

- 16) **A. MASIELLO**, On the existence of a timelike trajectory for a Lorentzian metric,
Proceedings of the Royal Society of Edinburgh Vol. **125 A**, pp. 807-815 (1995).
- 17) **F. Giannoni, A. MASIELLO**, Morse Relations for geodesics on stationary Lorentzian manifolds with boundary,
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- 18) **R. Bartolo, A. MASIELLO**, On the existence of infinitely many trajectories for a class of Lorentzian manifolds like Schwarzschild and Reissner-Nordström space-times,
Journal of Mathematical Analysis and Applications Vol. **199**, pp. 14-38 (1996).
- 19) **A. MASIELLO, L. Pisani**, Asymptotically linear elliptic problems at resonance,
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- 20) **F. Giannoni, A. MASIELLO**, On a Fermat principle in General Relativity. A Morse theory for light rays,
General Relativity and Gravitation Vol. **28**, pp. 855-897 (1996).
- 21) **F. Giannoni, A. MASIELLO, P. Piccione**, A variational theory for light rays in stably causal Lorentzian manifolds. Existence and regularity results,
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- 22) **R. Bartolo, A. MASIELLO**, Morse Relations for second order Lagrangian systems on Riemannian manifolds with convex boundary,
Advances in Differential Equations Vol. **2**, pp. 593--618 (1997).
- 23) **F. Giannoni, A. MASIELLO, P. Piccione**, On a Variational Theory for Light Rays on Stably Causal Lorentzian Manifolds,
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- 26) **F. Giannoni, A. MASIELLO, P. Piccione**, A Morse Theory for Light Rays on Stably Causal Lorentzian Manifolds,
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- 29) **A.M. Candela, F. Giannoni, A. MASIELLO**, Multiple critical points for indefinite functionals and applications,
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- 31) **V. Benci, D. Fortunato, A. MASIELLO, L. Pisani**, Solitons and the electromagnetic field,
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- 53) **E. Caponio, M.A. Javaloyes, A. MASIELLO**, Addendum to "Morse Theory of causal geodesics in a stationary spacetime via Morse Theory of geodesics of a Finsler metric" [Ann. I. H. Poincaré - AN 27 (3) (2010) 857-876],
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- 62) **A.MASIELLO**, Some variational problem in semiriemannian geometry, in *Analytical and Numerical Approaches to Mathematical Relativity*, Proceedings of the Workshop Mathematical Relativity, New ideas and Developments, Bad Honnef, 1-5 March 2004, L. Frauendiener, D. Giulini. V.Perlick (Eds.), Lecture Notes in Physics **692**, pp. 51--77, Springer, Heidelberg 2006.
- 63) **A.MASIELLO**, Variational properties of the relativistic Lorentz equation, in *Recent Developments in Gravitational Physics: Proceedings of the 15th SIGRAV Conference on General Relativity and Gravitational Physics*, Villa Mondragone, Monte Porzio Catone, Rome, Italy, 9-12 September 2002 I.Ciufolini, E.Coccia M.Colpi, V.Gorini, R.Peron (Editors). Institute of Physics Conference Series 176, pp. 171--180, Taylor and Francis, New York 2006.