Prof. FRANCESCO OLIVERI, Ph.D.

CURRICULUM VITÆ ET STUDIORUM

https://mat521.unime.it/oliveri

Informazioni generali

Nato a Messina il [redacted]
Laurea con lode in *Scienze Biologiche* il 22/11/1982 presso l'Università degli Studi di Messina.
Laurea con lode in *Matematica* il 5/3/1985 presso l'Università degli Studi di Messina.
Dottore di Ricerca in Matematica il 20/12/1990 con una tesi di Dottorato dal titolo *"Analisi dei gruppi di invarianza e soluzioni di similarità di equazioni differenziali a derivate parziali"*.

Carriera

1/11/1989 – 31/10/1990: Borsa di ricerca senior dell'Istituto Nazionale di Alta Matematica.

1/11/1990 – 31/10/1999: Ricercatore di Fisica Matematica presso la Facoltà di Scienze Matematiche, Fisiche e Naturali dell'Università di Messina.

1/11/1999 – 31/10/2001: Professore Associato di Fisica Matematica presso la Facoltà di Ingegneria dell'Università della Basilicata.

1/11/2001 – 31/10/2004: Professore Straordinario di Fisica Matematica presso l'Università di Messina.

1/11/2004 – ...: Professore Ordinario di Fisica Matematica presso l'Università di Messina (attualmente Dipartimento di Scienze Matematiche e Informatiche, Scienze Fisiche e Scienze della Terra).

Altre informazioni

- Dal 1986: afferente al Gruppo Nazionale per la Fisica Matematica (G.N.F.M.) dell'Istituto Nazionale di Alta Matematica (I.N.d.A.M.).
- 2004–2012: Coordinatore del Dottorato di Ricerca in Matematica dell'Università di Messina (Cicli XXI – XXXVI).

- 01/10/2012–30/09/2015: Direttore del Dipartimento di Matematica e Informatica dell'Università di Messina.
- Dal 2014: componente del Collegio dei Docenti del Dottorato di Ricerca in Matematica e Informatica (in convenzione tra le Università di Catania, Messina e Palermo).
- Da Luglio 2016 al Giugno 2017 Componente del Consiglio di Amministrazione dell'ERSU - Messina.
- 01/10/2018–30/09/2021: Coordinatore del Corso di Laurea Magistrale in Matematica dell'Università di Messina.
- Da ottobre 2021: Componente del Consiglio di Amministrazione e Vice Presidente della Fondazione Interuniversitaria Horcynus Orca.
- Da Ottobre 2022: Coordinatore del Dottorato di Ricerca in Matematica e Scienze Computazionali (in convenzione tra le Università di Messina, Catania e Palermo).
- Socio ordinario dell'Accademia Peloritana dei Pericolanti (Messina).
- Componente di diverse commissioni di concorso di Ricercatore, Professore Associato e Professore Ordinario.

Attività di ricerca

L'attività di ricerca riguarda i seguenti argomenti:

1. Teoria e applicazioni dei gruppi di trasformazioni continue di Lie allo studio delle equazioni differenziali ordinarie e alle derivate parziali.
2. Simmetrie di Lie approssimate.
3. Leggi di conservazione.
4. Termomeccanica dei continui (anche con variabili interne).
5. Propagazione ondosa non lineare.
6. Modelli operatoriali di sistemi classici.
7. Computer algebra.
8. Statistica computazionale.

Autore di più di 120 prodotti scientifici di Fisica Matematica e Matematica Applicata pubblicati su riviste scientifiche, del volume "Algoritmi e Programmazione in C", Aracne Editrice, Roma, 2009, e co-autore del volume "Quantum Tools for Macroscopic Systems", Springer, Cham, 2023.

Ha curato la traduzione e l'edizione italiana del libro "Surreal numbers" di D. E. Knuth presso FrancoAngeli Editore, 2016, nonché la pubblicazione di volumi di proceedings.

Banca dati Scopus:
`https://www.scopus.com/authid/detail.uri?authorId=7006024038`

Referee di molti giornali scientifici (tra gli altri: Journal of Mathematical Analysis and Applications, Nonlinear Dynamics, International Journal of Engineering Science, Mathematical Methods in the Applied Sciences, Journal of Mathematical Physics, International Journal of Non-linear Mechanics, Journal of Physics A, Acta Mechanica, Meccanica, Acta Applicandae Mathematicae, Chaos, Journal of Nonlinear Mathematical Physics, International Journal of Theoretical Physics, Symmetry, Mathematics, Ricerche di Matematica, Physica A, European Physical Journal Plus).

È stato supervisore di 10 tesi di dottorato in Matematica e di una tesi di dottorato in Statistica.

- Co-Chairman (con Fabio Bagarello e Vittorio Romano) del convegno "Mathematical Aspects in Non Equilibrium Systems: From Micro to Macro" (Erice, 30 Ottobre – 4 Novembre 2024): `https://mat521.unime.it/erice`.

- Componente del comitato organizzatore della "Fifteenth Biennial Quantum Structure 2022 Conference" (Tropea, 27 Giugno – 2 Luglio 2022).

- Componente del comitato organizzatore della conferenza "micro to MACRO mathematical modelling in soil mechanics" (Reggio Calabria, 29 Maggio-1 Giugno 2018).

- Componente del comitato scientifico del workshop "Quantum Mechanics: Mathematics and Ideas" (Messina, 19 Settembre 2018).

- Componente del comitato scientifico della "4th Conference on Recent Trends in Nonlinear Phenomena" (Messina, 18-20 Settembre 2017).

- Chairman della conferenza M2FM3A, I Metodi e i Modelli della Fisica Matematica e la Moderna Matematica Applicata (Messina, 28-29 Novembre 2014).

- Chairman della conferenza IPERME11, XIV Incontro Nazionale sui Problemi di Tipo Iperbolico (Messina, 16-18 Febbraio 2011).
- Componente del comitato organizzatore dello IUTAM-ISIMM Symposium on "Mathematical Modeling and Physical Instances of Granular Flows" (Reggio Calabria, 14-18 Settembre 2009).
- Componente del Comitato Scientifico delle conferenze internazionali CASC (Computer Algebra in Scientific Computing) delle edizioni 2002 (Yalta, Crimea) e 2003 (Passau, Germania).
- Componente del Comitato Scientifico della conferenza internazionale "Granular Matter: Mathematical Modeling and Physical Instances" (Reggio Calabria, 25-29 Giugno 2005).
- Componente del Comitato Organizzatore of WASCOM 99 (10th International Conference on Waves and Stability in Continuous Media, Vulcano, 7-12 Giugno 1999).
- Componente del Comitato Organizzatore della conferenza internazionale "Nonlinear Hyperbolic Problems: Theoretical, Applied and Computational Aspects" (Taormina, 3-8 Aprile 1992).
- Editor (con A. Donato) del volume "Nonlinear Hyperbolic Problems: Theoretical, Applied and Computational Aspects". Notes on Numerical Fluid Mechanics, vol. 43, Vieweg, Wien, 1993.
- Editor (con V. Ciancio, A. Donato e S. Rionero) del volume "Proceedings Wascom 99, 10th International Conference on Waves and Stability Analysis in Continuous Media", World Scientific Publishing Co., Singapore, 2001.

Progetti di Ricerca

- Coordinatore di diversi progetti di ricerca locali dell'Università di Messina.
- Coordinatore locale del PRIN PNRR 2022, Coordinatore nazionale prof. C. Godano (Non linear models for magma transport and volcanoes generation)
- Componente del PRIN 2022, Coordinatore nazionale prof. V. Romano (Transport phenomena in low dimensional structures: models, simulations and theoretical aspects).

- Coordinatore locale del PRIN 2005, Coordinatore nazionale Prof. T. Ruggeri (Nonlinear Propagation and Stability in Thermodynamical Processes of Continuous Media).
- Componente del PRIN 2003, Coordinatore nazionale Prof. Ruggeri (Nonlinear Mathematical Problems of Wave Propagation and Stability in Models of Continuous Media).
- Componente del PRIN 2000, Coordinatore nazionale Prof. T. Ruggeri (Non Linear Mathematical Problems of Wave Propagation and Stability in Models of Continuous Media).

Conferenze su invito (recenti)

1. "Symmetry and Perturbation in Quantum Theory", SPQT2024 (Santa Margherita di Pula, Cagliari, 2-8 Giugno 2024).
2. "Joint European Thermodynamics Conference", JETC 2023 (Salerno, 12–17 Giugno 2023).
3. "Symmetry and Perturbation Theory" (sSPT2023), Otranto, 4–10 Giugno 2023).
4. "Fifteenth Biennial Quantum Structure 2022 Conference" (Tropea, 27 Giugno – 2 Luglio 2022).
5. Workshop "Non–equilibrium thermodynamics, continuum physics and applied perspectives" (Accademia Peloritana dei Pericolanti, Messina, 23–24 Giugno 2022).
6. "WASCOM XXI – International Conference on Waves and Stability Problems in Continuous Media" (Catania, 6–10 Giugno 2022).
7. Workshop "Geometry, Algebra, Symmetry, and Dynamics" (Tarquinia, 15-20 Maggio 2022).
8. "Diffieties, Cohomological Physics, and Other Animals" (Mosca, 13–17 Dicembre 2021).
9. 'CIMAT Days 2021" (Catania, 29 Settembre – 1 Ottobre 2021).
10. Workshop "Local and Nonlocal Geometry of PDEs and Integrability" (Trieste, Italia, 8-12 Ottobre 2018).

11. Workshop "Quantum Mechanics: Analysis and Ideas" (Messina, Italia, 19 Settembre 2018).

12. "(H, ρ)–induced dynamics and asymptotic behavior in operatorial models" (ITMO University, Saint Petersburg, 17 Maggio 2018).

13. Workshop "Phonon-hydrodynamics in solids and superfluids" (Palermo, 25-27 gennaio 2018).

14. Workshop "Advances in Mathematics for Technology" (Catania, Italia, 9-11 Ottobre 2017).

15. XIX International conference "Waves and Stability in Continuous Media" (Bologna, Italia, 12-16 Giugno 2017).

16. Workshop "Integrable systems and related mathematical structures" (Goettingen, Germania, 30 Marzo - 1 Aprile 2016)

17. Workshop on "Integrable Nonlinear Equations" (Mikulov, Repubblica Ceca, 18-24 Ottobre 2015).

18. XVIII International conference on "Waves and Stability in Continuous Media" (Cetraro, Italia, 1–5 Giugno 2015).

19. "Seventh China-Italy Colloquium on Applied Mathematics" (Cinisi, Italia, 8–11 Settembre 2014).

20. "Symmetry and Perturbation Theory 2014" (Cala Gonone, Italia, 25-30 Giugno 2014).

21. 5 seminari su invito al Compact Course on "Lie group analysis" organized by prof. L. A. Bordag in Zittau, Germania (14-27 Ottobre 2013).

22. XVII International conference on "Waves and Stability in Continuous Media" (Levico, Italia, 17–21 Giugno 2013).

23. XVI International conference on "Waves and Stability in Continuous Media" (Brindisi, Italia, 12–18 Giugno 2011).

24. "Symmetry and Perturbation Theory 2011" (Otranto, Italia, 6–11 Giugno 2011).

25. "Geometry and Symmetry of Differential Equations" (Santa Marinella, Italia 17–22 Maggio 2010).

26. "Fifth China-Italy Colloquium on Applied Mathematics" (Acireale, Italia, 27–30 Settembre 2010).

27. 6 lezioni nel corso avanzato "Lie symmetries of differential equations and applications" alla XXXIV Summer School of Mathematical Physics (Ravello, Italia, Settembre 2009).

28. IPERBA, 13th Meeting on Hyperbolic Equations (Bari, Italia, 11–13 Febbraio 2009).

29. XIV International Conference on "Waves and Stability in Continuous Media" (Scicli, Italia, 29 Giugno – 6 Luglio 2007).

30. "Symmetry and Perturbation Theory 2007" (Otranto, Italia, 2–9 Giugno 2007).

31. "Asymptotic Methods in Nonlinear Wave Phenomena" (Mondello, Italia, 5–7 Giugno 2006).

Attività didattica

Ha svolto attività didattica tenendo insegnamenti di Fisica Matematica, Matematica Applicata, Programmazione in C, Algoritmi e Strutture Dati, Basi di dati, Computer Algebra, Storia della Matematica presso le Università di Messina e della Basilicata, e ha tenuto corsi specialistici di dottorato presso l'Università di Kaiserslautern (Germania), l'Università di Messina, l'Università della Basilicata, l'Università del Salento e l'Università di Zittau/Gorlitz (Germania).

Ha tenuto il corso avanzato dal titolo "Lie symmetries of differential equations and applications" alla XXXIV Scuola Estiva di Fisica Matematica, Ravello (Italia), 14-19 Settembre 2009.

Ha tenuto seminari divulgativi di orientamento e *public engagement* presso numerosi Istituti di Istruzione Secondaria Superiore e presso le Università di Messina, Palermo, Kore di Enna, Salento.

ELENCO DELLE PUBBLICAZIONI.

Monografie

1. F. Bagarello, F. Gargano, F. Oliveri. Quantum Tools for Macroscopic Systems. Springer, Cham, 2023.

2. F. Oliveri. Algoritmi e Programmazione in C. Aracne, Roma, 2009.

Curatele

1. D. E. Knuth. Numeri surreali (traduzione in Italiano). FrancoAngeli, 2006.

2. Ciancio V., Donato A., Oliveri F., Rionero S. (a cura di). Proceedings "Wascom 99", 10th Conference on Waves and Stability in Continuous Media, 1-511, World Scientific Publishing, Singapore, ISBN: 9810245408.

3. Donato A., Oliveri F. (a cura di). Nonlinear Hyperbolic Problems: Theoretical, Applied and Computational Aspects. Proceedings of the Fourth International Conference on Hyperbolic Problems, Taormina, Italy, April 3 to 8, 1992, Notes on Numerical Fluid Mechanics, **43**, 1–612, Vieweg, Wiesbaden, 1993. ISBN: 3528076437.

Pubblicazioni su Riviste

1. C. F. Munafò, C. Godano, F. Oliveri. The birth of a volcano: a nonlinear convective model for rock melting at the asthenosphere - lithosphere boundary. Applications in Engineering Science, **18**, 100179, 2024.

2. C. F. Munafò, G. Inferrera, F. Oliveri, P. Rogolino. Reaction-diffusion models of crimo-taxis in a street. Applied Mathematics and Computation, **467**, 128504, 2024.

3. M. Gorgone, G. Inferrera, F. Oliveri. Fermionic operatorial model of a system with competitive and cooperative interactions. International Journal of Theoretical Physics, **62**, 241, 2023.

4. F. Bagarello, F. Gargano, M. Gorgone, F. Oliveri. Spreading of Information on a Network: A Quantum View. Entropy, **23**, 1438, 2023.

5. L. Amata, F. Oliveri. Automatic determination of optimal systems of Lie subalgebras: the package SymboLie. Contemporary Mathematics, **789**, 1–17, 2023.

6. M. Gorgone, F. Oliveri, A. Ricciardello, P. Rogolino. Two-dimensional equilibrium configurations in Korteweg fluids. Theoretical and Applied Mechanics, **49**, 111–122, 2022.

7. G. Inferrera, F. Oliveri. Operatorial formulation of a model of spatially distributed competing populations. Dynamics, **2**, 414–433, 2022.

8. C. Godano, S. De Nicola, R. Fedele, S. Carlino and F. Oliveri. Nonlinear convective motion of the asthenosphere and the lithosphere melting: a model for the birth of a volcano. European Physical Journal Plus, **137**, 521, 2022.

9. M. Gorgone, F. Oliveri. Approximate Noether symmetries of perturbed Lagrangians and approximate conservation laws. Mathematics, **9**, 2900, 2021.

10. F. Oliveri. ReLie: a Reduce program for Lie group analysis of differential equations. Symmetry, **13**, 1826 (1-39), 2021.

11. M. Gorgone, F. Oliveri, P. Rogolino. Thermodynamical analysis and constitutive equations for a mixture of viscous Korteweg fluids. Physics of Fluids, **33**, 093102, 2021.

12. M. Gorgone, F. Oliveri. Consistent approximate Q-conditional symmetries of PDEs: application to a hyperbolic reaction-diffusion-convection equation. ZAMP, **72**, 119, 2021.

13. A. Giunta, G. Giunta, D. Marino, F. Oliveri. Market behavior and evolution of wealth distribution: a simulation model based on artificial agents. Mathematical and Computational Applications, **26**, 12, 2021.

14. F. Gargano, F. Bagarello, F. Oliveri. Spreading of competing information in a network. Entropy, **22**, 1169, 2020.

15. M. Gorgone, F. Oliveri, P. Rogolino. Continua with non-local constitutive laws: exploitation of entropy inequality. International Journal of Non-linear Mechanics, **126**, 103573, 2020.

16. V. A. Cimmelli, M. Gorgone, A. R. Pace, F. Oliveri. Weakly nonlocal thermodynamics of binary mixtures of Korteweg fluids with two velocities and two temperatures. European Journal of Mechanics/B Fluids, **83**, 58–65, 2020.

17. R. Di Salvo, M. Gorgone, F. Oliveri. Generalized Hamiltonian for a two-mode fermionic model and asymptotic equilibria. Physica A, **540**, 12032, 2020.

18. M. Gorgone, F. Oliveri. Lie remarkable partial differential equations characterized by Lie algebras of point symmetries. Journal of Geometry and Physics, **144**, 314-323, 2019.

19. S. Agreste, F. Oliveri, A. Ricciardello. Propagation of seismic waves in a continuum modeled as a granular material. Meccanica, **54**, 597-607, 2019.

20. M. Gorgone, F. Oliveri. Approximate Q-conditional symmetries of partial differential equations. Electronic Journal of Differential Equations, **25**, 133-147, 2018.

21. F. Bagarello, R. Di Salvo, F. Gargano, F. Oliveri. (H, ρ)–induced dynamics and large time behaviors. Physica A, **505**, 355–373, 2018.

22. R. Di Salvo, M. Gorgone, F. Oliveri. A consistent approach to approximate Lie symmetries of differential equations. Nonlinear Dynamics, **91**, 371–386, 2018.

23. R. Di Salvo, M. Gorgone, F. Oliveri. (H, ρ)-induced political dynamics: facets of the disloyal attitudes into the public opinion. International Journal of Theoretical Physics, **56**, 3912–3922, 2017.

24. R. Di Salvo, M. Gorgone, F. Oliveri. F. Political dynamics affected by turncoats. International Journal of Theoretical Physics, **56**, 3604–3614, 2017.

25. R. Di Salvo, F. Oliveri. An operatorial model for complex political system dynamics. Mathematical Methods in the Applied Sciences, **40**, 5668–5682, 2017.

26. M. Gorgone, F. Oliveri, M.P. Speciale. On the decoupling problem of general quasilinear first order systems in two independent variables. Journal of Mathematical Analysis and Applications, **446**, 276–298, 2017.

27. M. Gorgone, F. Oliveri. F. Nonlinear first order PDEs reducible to autonomous form polynomially homogeneous in the derivatives. Journal of Geometry and Physics, **113**, 53–64, 2017.

28. M. Gorgone, F. Oliveri. Nonlinear first order partial differential equations reducible to first order homogeneous and autonomous quasilinear ones. Ricerche di Matematica, **66**, 51–63, 2017.

29. F. Bagarello, R. Di Salvo, F. Gargano, F. Oliveri. (H, ρ)-induced dynamics and the quantum game of life. Applied Mathematical Modelling, **43**, 15–32, 2017.

30. R. Di Salvo, F. Oliveri. An operatorial model for long-term survival of bacterial populations. Ricerche di Matematica, **65**, 435–447, 2016.

31. R. Di Salvo, F. Oliveri. On fermionic models of a closed ecosystem with application to bacterial populations. Atti dell'Accademia Peloritana Pericolanti Classe di Scienze Fisiche Matematiche e Naturali, **94**, A5, 2016.

32. V. A. Cimmelli, F. Oliveri, A. R. Pace. Phase-field evolution in Cahn-Hilliard-Korteweg fluids. Acta Mechanica, **227**, 2111–2124, 2016.

33. F. Oliveri, A. Palumbo, P. Rogolino. On a model of mixtures with internal variables: extended Liu procedure for the exploitation of the entropy principle. Atti dell'Accademia Peloritana Pericolanti Classe di Scienze Fisiche Matematiche e Naturali, **94**, A2, 2016.

34. F. Bagarello, A. M. Cherubini, F. Oliveri. An operatorial description of desertification. SIAM Journal on Applied Mathematics, **76**, 479–499, 2016.

35. F. Bagarello, F. Gargano, F. Oliveri, S. Spagnolo. Complessità e sport. Strength &Conditioning, **IV**, 21–25, 2015.

36. F. Bagarello, F. Gargano, F. Oliveri. A phenomenological operator description of dynamics of crowds: escape strategies. Applied Mathematical Modelling, **39**, 2276–2294, 2015.

37. V. A. Cimmelli, F. Oliveri, A. R. Pace. A nonlocal phase–field model of Ginzburg–Landau–Korteweg fluids. Continuum Mechanics and Thermodynamics, **27**, 367–378, 2015.

38. G. Manno, F. Oliveri, G. Saccomandi, R. Vitolo. Ordinary differential equations described by their Lie symmetry algebra. Journal of Geometry and Physics, **85**, 2–15, 2014.

39. M. Gorgone, F. Oliveri, M. P. Speciale. Reduction of balance laws in $(3 + 1)$–dimensions to autonomous conservation laws by means of equivalence transformations. Acta Applicandae Mathematicae, **132**, 333–345, 2014.

40. F. Oliveri. Construction of autonomous conservation laws. Acta Applicandae Mathematicae, **132**, 443–456, 2014.

41. F. Bagarello, F. Oliveri. A phenomenological operator description of interaction between populations with application to migration. Mathematical Models and Methods in Applied Sciences, **23**, 471–492, 2013.

42. F. Oliveri, M. P. Speciale. Reduction of balance laws by means of equivalence transformations. Journal of Mathematical Physics, **54**, 041506, 2013.

43. F. Oliveri, F. Santoro. A computational approach to least square fitting with perpendicular offsets. Bollettino di Matematica Pura e Applicata, **V**, 31–51, 2012.

44. V. A. Cimmelli, F. Oliveri, A. R. Pace. Thermodynamical setting for gradient continuum theories with vectorial internal variables: application to granular material. International Journal of Non–linear Mechanics, **49**, 72–76, 2013.

45. F. Oliveri, M. P. Speciale. Equivalence transformations of quasilinear first order systems and reduction to autonomous and homogeneous form. Acta Applicandae Mathematicae, **152**, 447–460, 2012.

46. F. Oliveri. General dynamical systems described by first order quasilinear PDEs reducible to homogeneous and autonomous form. International Journal of Non-linear Mechanics, **47**, 53–60, 2012.

47. F. Conforto, S. Iacono, F. Oliveri, C. Spinelli. Lie group analysis and Riemann problems for a 2 x 2 system of balance laws. International Journal of Engineering Science, **51**, 128–143, 2012.

48. V. A. Cimmelli, F. Oliveri, V. Triani. Exploitation of the entropy principle: Proof of Liu theorem if the gradients of the governing equations are considered as constraints. Journal of Mathematical Physics, **52**, 023511-1–023511-15, 2011.

49. V. A. Cimmelli, F. Oliveri, A. R.Pace. On the Thermodynamics of Korteweg Fluids with Heat Conduction and Viscosity. Journal of Elasticity, **104**, 115–131, 2011.

50. F. Bagarello, F. Oliveri (2010). An operator-like description of love affairs. SIAM Journal on Applied Mathematics, **70**, 3235–3251, 2011.

51. F. Oliveri. Lie Symmetries of Differential Equations: Classical Results and Recent Contributions. Symmetry, **2**, 658–706, 2010.

52. C. Currò, F. Oliveri. Reduction of nonhomoheneous quasilinear 2×2 systems to homogeneous and autonomous form. Journal of Mathematical Physics, **49**, 1–11, 2008.

53. F. Oliveri, M.P. Speciale. Wave Hierarchies in Continua with Scalar Microstructure in the Plane and Spherical Symmetry. Computers & Mathematics with Applications, **55**, 285–298, 2008.

54. G. Manno, F. Oliveri, R. Vitolo. Differential equations uniquely determined by algebras of point symmetries. Theoretical and Mathematical Physics, **151**, 843–850, 2007.

55. G. Manno, F. Oliveri, R. Vitolo. On differential equations characterized by their Lie point symmetries. Journal of Mathematical Analysis and Applications, **332**, 767–786, 2007.

56. V.A. Cimmelli, F. Oliveri, A.R. Pace. On the stability of the equilibrium states for hamiltonian dynamical systems arising in non-equilibrium thermodynamics. Zeitschrift fur Angewandte Mathematik und Physik, **58**, 736–748, 2007.

57. F. Oliveri. Sur une propriété remarquable des équations de Monge-Ampère. Rendiconti del Circolo Matematico di Palermo. Supplemento, **78**, Ser. II, 243–257, 2006.

58. F. Oliveri, M.P. Speciale (2005). Exact solutions to the ideal magneto-gas-dynamics equations through Lie group analysis and substitution principles. Journal of Physics. A, Mathematical and General, **38**, 8803–8820, 2005.

59. F. Oliveri. On substitution principles in ideal magneto-gas-dynamics by means of Lie group analysis. Nonlinear Dynamics, **42**, 217–231, 2005.

60. F. Oliveri. Lie symmetries of differential equations: direct and inverse problems. Note di Matematica, **23**, 195–216, 2004.

61. V. A. Cimmelli, F. Oliveri, A. R.Pace. Thermo–electrodynamics of rigid superconductors. Archives of Mechanics, **56**, 377–389, 2004.

62. V. A. Cimmelli, F. Oliveri. A diffusive-hyperbolic model for heat conduction. Mathematical and Computer Modelling, **39**, 1413–1422, 2004.

63. F. Oliveri. Asymptotic waves for fast granular flows. Mathematical and Computer Modelling, **37**, 533–540, 2003.

64. F. Oliveri, M.P. Speciale. Exact solutions to the unsteady equations of perfect gases through Lie group analysis and substitution principles. International Journal of Non-linear Mechanics, **37**, 257–274, 2002.

65. F. Oliveri. Numeri surreali. Lettera Matematica Pristem, **38**, 46–52, 2001.

66. F. Oliveri, M.P. Speciale. Exact solutions to the equations of perfect gases through Lie group analysis and substitution principles. International Journal of Non-linear Mechanics, **34**, 1077–1087, 1999.

67. C. Godano, F. Oliveri. Nonlinear seismic waves: a model for site effects. International Journal of Non-linear Mechanics, **34**, 457–468, 1999.

68. M.P. Speciale, F. Oliveri. Exact solutions to equations of perfect gases and substitution principles. Rendiconti del Circolo Matematico di Palermo, **57**, 459–464, 1998.

69. F. Oliveri, M.P. Speciale. On substitution principles for systems of balance laws: the equation of monatomic gases. Rendiconti del Circolo Matematico di Palermo, **57**, 363–368, 1998.

70. F. Oliveri, M. P. Speciale. Exact solutions to the equations of ideal gas-dynamics by means of the substitution principle. International Journal of Non-linear Mechanics, **33**, 585–592, 1998.

71. F. Oliveri. Linearizable second order Monge-Ampère equations. Journal of Mathematical Analysis and Applications, **218**, 329–345, 1998.

72. A. Donato, F. Oliveri. Exceptionality condition and linearization of hyperbolic equations. Rendiconti Circolo Matematico di Palermo, **45**, 193–207, 1996.

73. F. Oliveri. Wave propagation in granular materials as continua with microstructure: application to seismic waves in a sediment filled site. Rendiconti Circolo Matematico di Palermo, **45**, 487–499, 1996.

74. A. Donato, F. Oliveri. How to build up variable transformations allowing one to map nonlinear hyperbolic equations into autonomous or linear ones. Transport Theory and Statistical Physics, **25**, 303–322, 1996.

75. A. Donato, F. Oliveri. Linearization of completely exceptional second order hyperbolic conservative equations. Applicable Analysis, **57**, 35–45, 1995.

76. P. Giovine, F. Oliveri. Dynamics and wave propagation in dilatant granular materials". Meccanica, **30**, 341–357, 1995.

77. A. Donato, F. Oliveri. When nonautonomous equations are equivalent to autonomous ones. Applicable Analysis, **58**, 313–323, 1995.

78. A. Donato, F. Oliveri. Linearization procedure of nonlinear first order systems of PDE's by means of canonical variables related to Lie groups of point transformations. Journal of Mathematical Analysis and Applications, **188**, 552–568, 1994.

79. A. Donato, F. Oliveri. Reduction to autonomous form by group analysis and exact solutions of axi-symmetric MHD equations. Mathematical and Computer Modelling, **18**, 83–90, 1993.

80. P. Giovine, F. Oliveri. Wave features related to a model of compressible immiscible mixtures of two perfect fluids. Acta Mechanica, **96**, 85–96, 1993.

81. J. Engelbrecht, D. Fusco, F. Oliveri. Nerve pulse transmission: recovery variable and rate-type effects. Chaos, Solitons & Fractals, **2**, 197–209, 1992.

82. F. Oliveri. On the equations of ideal gas-dynamics with a separable equation of state: Lie group analysis and substitution principles. International Journal of Non-linear Mechanics, **27**, 773–784, 1992.

83. F. Oliveri. Painlevé test and symmetries of the long wave - short wave resonance equations. Atti Accademia Peloritana dei Pericolanti, **LXVIII**, 575–595, 1991.

84. F. Oliveri. Painlevé analysis and similarity solutions of Burgers' equation with variable coefficients. Journal of Engineering Mathematics, **25**, 317–327, 1991.

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