SOMMARIO

Paolo Bettini ha conseguito la Laurea in Ingegneria Elettrotecnica (1994) presso l'Università di Padova, il Diploma di perfezionamento in Ingegneria del Plasma e della Fusione Termonucleare Controllata (1995) presso l'Università di Padova e il Dottorato di ricerca in Elettrotecnica (1998) presso l'Università di Padova.

È stato ricercatore presso il Consorzio RFX di Padova (1997-1999) ed ha intrapreso la carriera accademica presso l'Università di Udine (1999-2009) dapprima come ricercatore e poi come professore associato, per poi trasferirsi all'Università di Padova nel 2009.

Attualmente è professore ordinario di Elettrotecnica presso il Dipartimento di Ingegneria Industriale (DII) dell'Università di Padova.

È stato coordinatore del Dottorato di Ricerca Internazionale in "Fusion Science and Engineering" per due mandati consecutivi, dal 2014 al 2020. Attualmente ne è vice-coordinatore.

Dal 2020 è direttore del "Centro Ricerche Fusione (CRF)" dell'Università degli Studi di Padova, che costituisce la struttura di riferimento per il personale universitario messo a disposizione del Consorzio RFX di Padova (consorzio di ricerca di cui sono soci Università di Padova, CNR, ENEA, INFN e Acciaierie Venete). Dal 2021 è membro del Consiglio di Amministrazione del Consorzio RFX.

Dal 2020 è inoltre membro della "Board of Governors" di FuseNet, organizzazione che coordina a livello europeo le attività di formazione nel campo della fusione.

Dal 2021 è presidente del Corso di Studio della Laurea Magistrale in Ingegneria dell'Energia Elettrica.

FORMAZIONE

1994: Laurea in Ingegneria Elettrotecnica (110 e lode) presso l'Università di Padova

1995: Diploma di perfezionamento in Ingegneria del Plasma e della Fusione Termonucleare Controllata, Università di Padova

1998: Dottorato di Ricerca in Ingegneria Elettrotecnica, Università di Padova

ESPERIENZA LAVORATIVA

Dicembre 1997 – Maggio 1999: Ricercatore, Consorzio RFX, Padova

Maggio 1999 – Gennaio 2005: Ricercatore, Università di Udine

Gennaio 2005 – Dicembre 2009: Professore associato, Università di Udine

Dicembre 2009 – : Professore associato, Università di Padova

VISITING SCIENTIST

1998: ITER Joint Work Site, Naka, Japan, 8 weeks

2014: CRPP (Centre de Recherche en Physique des Plasmas), EPFL, Lausanne, Svizzera

2014, 2015: Max-Planck Institut für Plasmaphysik (IPP), Garching bei München, Germania

2015: Technische Universität München (TUM), Garching bei München, Germania

ATTIVITÀ DIDATTICA

- Elettrotecnica (12 ECTS), LT in Ingegneria dell'Energia, Università di Padova
- Thermonuclear Fusion (6 ECTS), LM in Ingegneria dell'Energia Elettrica, Università di Padova

ATTIVITÀ SCIENTIFICA

L'attività di ricerca riguarda principalmente lo studio dei campi elettromagnetici, con particolare riferimento al calcolo numerico di campi elettrici e magnetici stazionari e quasi stazionari applicato alla fusione termonucleare controllata; si è inoltre occupato dello sviluppo di codici per la soluzione numerica di problemi di propagazione elettromagnetica, di compatibilità elettromagnetica (EMC), di problemi accoppiati (multiphysics) e di ottimizzazione.

Ha pubblicato più di 160 lavori su riviste internazionali, capitoli di libri e contributi a conferenze internazionali. H-index: 20 (fonte: Scopus)

È coautore dei seguenti codici numerici utilizzati nel campo della modellistica di plasmi confinati magneticamente e dell'elettromagnetismo computazionale:

• CAFE: codice per il calcolo numerico di campi elettrici e magnetici stazionari e quasi stazionari, mediante formulazioni geometriche discrete e integrali

• IAIA: codice per la ricostruzione del contorno magnetico del plasma

• VINCO: codice basato su formulazione integrale per la soluzione di problemi di correnti indotte su mesh poliedriche

• FFT-VI: codice basato su FFT e formulazione integrale per la soluzione di problemi di correnti indotte in corpi conduttori rappresentati mediante voxel

PROGETTI DI RICERCA INTERNAZIONALI FINANZIATI DA BANDI COMPETITIVI

Ha svolto attività di ricerca nell'ambito di numerosi contratti finanziati da istituzioni internazionali che operano nel settore della fusione (EFDA, F4E, ITER, EUROFUSION). Lista non esaustiva (dal 2009):

• F4E GRT-032-PMS-H.CD (2009) Components and infrastructures of PRIMA

• F4E GRT-047-PMS-DG (2009) System-level optimization of the ITER magnetics diagnostic and R&D/Design of magnetics sensor assemblies

• F4E GRT-306-PMS-H.CD (2011) Development of the cooling and cryogenic plant, auxiliary system for NBTF and power supply systems for NBTF and ITER

• F4E GRT-334 (2011) Model Validation of 3D MHD code and construction of ITER model simulation of asymmetric VDEs and associated electro-magnetic loads

• F4E OPE-349-PMS-PEI (2012) Analysis of real time magnetic reconstruction in ITER

• F4E Expert Contract (2013) Evaluation of plasma boundary reconstruction errors in ITER pulses

• IO/13/RT/4300000895 (2013) Plasma and halo current rotation during asymmetric VDEs

• Eurofusion WP14-SA (2014, 2015) Preparation of exploitation of JT-60SA

• Eurofusion WP14-MST1 (2014, 2015) Medium-Size Tokamak Campaigns

• Eurofusion WP14-ER-01/ENEA_RFX-05 (2014) Multi-configuration studies for the development of active control of MHD instabilities

PROGETTI DI RICERCA NAZIONALI FINANZIATI DA BANDI COMPETITIVI

• Coordinatore Nazionale del progetto di ricerca PRIN 2006092700 (2006) "Sviluppo di materiali e modellazione elettrica di celle a combustibile a metanolo per dispositivi elettronici portatili"

• Responsabile di Unità locale (Padova) del progetto di ricerca PRIN 2010SPS9B3 (2010) "Effetti tridimensionali, non lineari e multiphysics nella modellistica e nel controllo dei dispositivi per la fusione termonucleare controllata

PROGETTI DI RICERCA LOCALI FINANZIATI DA BANDI COMPETITIVI

• Responsabile scientifico del progetto BIRD162948 "P.E.E.C. Modelling of Electromagnetic Devices", ammesso al finanziamento da parte del Dipartimento di Ingegneria Industriale (DII) dell'Università di Padova su bando competitivo.

Ha inoltre svolto attività di ricerca nell'ambito dei seguenti Progetti (PRIN, FIRB) cofinanziati dal MIUR:

• PRIN 1998: Modelli e metodi per il controllo del plasma in dispositivi a confinamento magnetico per la Fusione Termonucleare Controllata

• FIRB 2003: Controllo in tempo reale dell'equilibrio globale e locale nella macchina RFX con sistemi attivi e passivi in presenza di una scocca con costante di tempo breve

• PRIN 2004: Sviluppo di formulazioni discrete per la modellazione di dispositivi elettromagnetici complessi e per problemi multi-physics

• PRIN 2006: Sviluppo di materiali e modellazione elettrica di celle a combustibile a metanolo per dispositivi elettronici portatili

VALUTAZIONE DI PROGETTI A VALERE SU PROGRAMMI NAZIONALI/LOCALI

• Membro della Commissione di valutazione Progetti e Assegni di Ricerca (CPA) dell'Università di Padova, bando 2011

• Membro della Commissione di valutazione Assegni di Ricerca Junior (CPJ) dell'Università di Padova, bando 2013

• Membro della Commissione Dipartimentale Progetti e Assegni (CDPA), DII, Università di Padova, bando 2018

ATTIVITÀ EDITORIALE

• Associate Editor per la rivista internazionale IEEE Access
• Revisore per le riviste internazionali Nuclear Fusion, Plasma Physics and Controlled Fusion, Fusion Engineering and Design, IEEE Transaction on Magnetics, International Journal of Non-Linear Mechanics, European Physical Journal D, Compel
• Membro dell'editorial board delle conferenze internazionali COMPUMAG e CEFC.
• Chairman di sessioni orali alla conferenza internazionale Symposium on Fusion Technology (SOFT) 2014 e 2016
• Membro dello Scientific Advisory Board (SAB) di 29th International Symposium on Discharges and Electrical Insulation in Vacuum (ISDEIV 2020)

ATTIVITÀ DIDATTICA

• Elettrotecnica (12 ECTS), LT in Ingegneria dell'Energia, Università di Padova
• Thermonuclear Fusion (6 ECTS), LM in Ingegneria dell'Energia Elettrica, Università di Padova

Pubblicazioni (solo articoli su rivista)

Estratto da Scopus in data: 20 novembre 2022

1. Efficient FEM-BEM Coupling Based on Argyris Element for Axi-Symmetric Open Boundary Magnetostatic Problems
   (2022) IEEE Transactions on Magnetics, 58 (9), art. no. 8205104, .
   DOI: 10.1109/TMAG.2022.3162122

2. Implementation and Review of the Axisymmetric Equilibrium System of RFX-Mod2 within the MARTe2 Framework
   (2022) Electronics (Switzerland), 11 (17), art. no. 2751, .
   DOI: 10.3390/electronics11172751

3. Sensitivity analysis of low-order plasma moments reconstruction for RFX-mod2 tokamak operations
   (2022) Fusion Engineering and Design, 182, art. no. 113243, .
   DOI: 10.1016/j.fusengdes.2022.113243

4. ARES: A fast and accurate tool for the identification of plasma stationary points and separatrix
   (2022) Nuclear Fusion, 62 (7), art. no. 076035, .
   DOI: 10.1088/1741-4326/ac66f0

5. Plasma physics and control studies planned in JT-60SA for ITER and DEMO operations and risk mitigation
   (2022) Plasma Physics and Controlled Fusion, 64 (5), art. no. 054004, .
   DOI: 10.1088/1361-6587/ac57a0

6. Topology Optimization for Electromagnetics: A Survey
   (2022) IEEE Access, 10, pp. 98593-98611.
   DOI: 10.1109/ACCESS.2022.3206368

7. Upgrade of the Magnetic Fault Detection System of RFX-mod2
   (2022) IEEE Transactions on Plasma Science,.
   DOI: 10.1109/TPS.2022.3168387

8. Automatic optimization of gas insulated components based on the streamer inception criterion
   (2021) Electronics (Switzerland), 10 (18), art. no. 2280, .
   DOI: 10.3390/electronics10182280

9. Optimized cycle basis in volume integral formulations for large scale eddy-current problems
   (2021) Computer Physics Communications, 265, art. no. 108004, .
   DOI: 10.1016/j.cpc.2021.108004

10. Model based computation of electromagnetic forces in magnetic confinement toroidal devices by using magnetic measurements
    (2021) Plasma Physics and Controlled Fusion, 63 (7), art. no. 075013, .
    DOI: 10.1088/1361-6587/abffba

11. Error Fields' Computation in the RFX-mod2 Reversed Field Pinch
    (2021) IEEE Transactions on Magnetics, 57 (6), art. no. 9389758, .
    DOI: 10.1109/TMAG.2021.3069731

12. Interaction of Tearing Modes with Passive Structures in a Tokamak
    (2021) IEEE Transactions on Magnetics, 57 (6), art. no. 9333593, .
    DOI: 10.1109/TMAG.2021.3053637

13. Fast Fourier transform-volume integral: A smart approach for the electromagnetic design of complex systems in large fusion devices
    (2021) Plasma Physics and Controlled Fusion, 63 (2), art. no. 025010, .
    DOI: 10.1088/1361-6587/abce8f

14. A Coupled FEM-BEM Approach for the Solution of the Free-Boundary Axi-Symmetric Plasma Equilibrium Problem
    (2021) Communications in Computational Physics, 31 (1), pp. 27-59.
    DOI: 10.4208/cicp.OA-2021-0062

15. Development of an experimental facility for the study of microparticle initiated radio frequency vacuum breakdown
(2021) Review of Scientific Instruments, 92 (1), art. no. 013508, .
DOI: 10.1063/5.0034559

16. Modelling of RFX-mod2 tokamak equilibria with DEMO-like shape conditions and negative triangularity
(2020) Plasma Physics and Controlled Fusion, 62 (8), art. no. 085001, .
DOI: 10.1088/1361-6587/ab93a5

17. Accurate magnetic sensor system integrated design
(2020) Sensors (Switzerland), 20 (10), art. no. 2929, .
DOI: 10.3390/s20102929

18. Matrix-Based Rational Interpolation for New Coupling Scheme between MHD and Eddy-Current Numerical Models
(2020) IEEE Transactions on Magnetics, 56 (3), art. no. 8960655, .
DOI: 10.1109/TMAG.2019.2954648

19. Marching on-in-time unstructured PEEC method for electrically large structures with conductive, dielectric, and magnetic media
(2020) Electronics (Switzerland), 9 (2), art. no. 242, .
DOI: 10.3390/electronics9020242

20. PEEC modeling of planar spiral resonators
(2020) IEEE Transactions on Magnetics, 56 (1), art. no. 8936632, .
DOI: 10.1109/TMAG.2019.2949481

21. Volume integral equation methods for axisymmetric problems with conductive and magnetic media
(2020) IEEE Transactions on Magnetics, 56 (1), art. no. 8936598, .
DOI: 10.1109/TMAG.2019.2947394

22. An inverse equilibrium tool to define axisymmetric plasma equilibria
(2019) Plasma Physics and Controlled Fusion, 61 (10), art. no. 105016, .
DOI: 10.1088/1361-6587/ab3f09

23. RFP based Fusion-Fission Hybrid reactor model for nuclear applications
(2019) Fusion Engineering and Design, 146, pp. 2725-2728.
DOI: 10.1016/j.fusengdes.2019.05.006

24. Comparison of approaches to the electromagnetic analysis of COMPASS-U vacuum vessel during fast transients
(2019) Fusion Engineering and Design, 146, pp. 2338-2342.
DOI: 10.1016/j.fusengdes.2019.03.185

25. Design of the new electromagnetic measurement system for RFX-mod upgrade
(2019) Fusion Engineering and Design, 146, pp. 906-909.
DOI: 10.1016/j.fusengdes.2019.01.110

26. Optimization of RFX-mod2 gap configuration by estimating the magnetic error fields due to the passive structure currents
(2019) Fusion Engineering and Design, 146, pp. 680-683.
DOI: 10.1016/j.fusengdes.2019.01.054

27. Real time assessment of the magnetic diagnostic system in RFX-mod
(2019) Fusion Engineering and Design, 146, pp. 426-429.
DOI: 10.1016/j.fusengdes.2018.12.083

28. Dependence on plasma shape and plasma fueling for small edge-localized mode regimes in TCV and ASDEX Upgrade
(2019) Nuclear Fusion, 59 (8), art. no. 086020, .
DOI: 10.1088/1741-4326/ab2211

29. Upgrades of the RFX-mod reversed field pinch and expected scenario improvements
(2019) Nuclear Fusion, 59 (7), art. no. 076027, .
DOI: 10.1088/1741-4326/ab1c6a

30. High-Performance PEEC Analysis of Electromagnetic Scatterers

(2019) IEEE Transactions on Magnetics, 55 (6), art. no. 8638854, .
DOI: 10.1109/TMAG.2019.2894618

31. A DC to HF volume PEEC formulation based on hertz potentials and the cell method
(2019) Applied Computational Electromagnetics Society Journal, 34 (2), pp. 211-212.

32. Runaway electron beam control
(2019) Plasma Physics and Controlled Fusion, 61 (1), art. no. 014036, .
DOI: 10.1088/1361-6587/aaef53

33. A locked mode indicator for disruption prediction on JET and ASDEX upgrade
(2019) Fusion Engineering and Design, 138, pp. 254-266.
DOI: 10.1016/j.fusengdes.2018.11.021

34. Cleaning of the eddy current effects from magnetic diagnostics
(2019) IEEE Transactions on Plasma Science, 47 (1), art. no. 8510850, pp. 858-863.
DOI: 10.1109/TPS.2018.2869413

35. A continuously pulsed Reversed Field Pinch core for an ohmically heated hybrid reactor
(2018) Fusion Engineering and Design, 136, pp. 1489-1493.
DOI: 10.1016/j.fusengdes.2018.05.040

36. Real-time-capable prediction of temperature and density profiles in a tokamak using RAPTOR and a first-principle-based transport model
(2018) Nuclear Fusion, 58 (9), art. no. 096006, .
DOI: 10.1088/1741-4326/aac8f0

37. Numerical-Experimental Benchmarking of a Probabilistic Code for Prediction of Voltage Holding in High Vacuum
(2018) IEEE Transactions on Plasma Science, 46 (5), pp. 1580-1586.
DOI: 10.1109/TPS.2017.2775246

38. Model-Based Approach for Magnetic Reconstruction in Axisymmetric Nuclear Fusion Machines
(2018) IEEE Transactions on Plasma Science, 46 (3), pp. 636-644.
DOI: 10.1109/TPS.2018.2796504

39. A 3-D PEEC Formulation Based on the Cell Method for Full-Wave Analyses with Conductive, Dielectric, and Magnetic Media
(2018) IEEE Transactions on Magnetics, 54 (3), art. no. 7201204, .
DOI: 10.1109/TMAG.2017.2750319

40. Iterative Solution of Eddy Current Problems on Polyhedral Meshes
(2018) IEEE Transactions on Magnetics, 54 (3), art. no. 7202304, .
DOI: 10.1109/TMAG.2017.2765925

41. Goal-oriented adaptivity for voltage breakdown prediction
(2018) IEEE Transactions on Magnetics, 54 (3), art. no. 8090538, .
DOI: 10.1109/TMAG.2017.2758958

42. Coupling Volume and Surface Integral Formulations for Eddy-Current Problems on General Meshes
(2018) IEEE Transactions on Magnetics, 54 (3), art. no. 7203604, .
DOI: 10.1109/TMAG.2017.2733627

43. Comparison of runaway electron generation parameters in small, medium-sized and large tokamaks - A survey of experiments in COMPASS, TCV, ASDEX-Upgrade and JET
DOI: 10.1088/1741-4326/aa8f05

44. Analysis of ELM stability with extended MHD models in JET, JT-60U and future JT-60SA tokamak plasmas
(2018) Plasma Physics and Controlled Fusion, 60 (1), art. no. 014032, .
DOI: 10.1088/1361-6587/aa8bec

45. Prediction of lightning impulse voltage induced breakdown in vacuum interrupters
(2017) IEEE Transactions on Dielectrics and Electrical Insulation, 24 (6), pp. 3367-3373.
DOI: 10.1109/TDEI.2017.006485

46. Modeling of the magnetic field errors of RFX-mod upgrade
(2017) Fusion Engineering and Design, 123, pp. 518-521.
DOI: 10.1016/j.fusengdes.2017.06.001

47. 3D magnetic surfaces reconstruction in RFX-mod
(2017) Fusion Engineering and Design, 123, pp. 546-550.
DOI: 10.1016/j.fusengdes.2017.04.069

48. Upgraded electromagnetic measurement system for RFX-mod
(2017) Fusion Engineering and Design, 123, pp. 892-896.
DOI: 10.1016/j.fusengdes.2017.03.098

49. Design concepts of machine upgrades for the RFX-mod experiment
(2017) Fusion Engineering and Design, 123, pp. 59-62.
DOI: 10.1016/j.fusengdes.2017.03.056

50. 3D electromagnetic analysis of the MHD control system in RFX-mod upgrade
(2017) Fusion Engineering and Design, 123, pp. 612-615.
DOI: 10.1016/j.fusengdes.2017.02.094

51. Integration of the state observer RAPTOR in the real-time MARTe framework at RFX-mod
(2017) Fusion Engineering and Design, 123, pp. 616-619.
DOI: 10.1016/j.fusengdes.2017.02.093

52. Physics and operation oriented activities in preparation of the JT-60SA tokamak exploitation
(2017) Nuclear Fusion, 57 (8), art. no. 085001, .
DOI: 10.1088/1741-4326/aa7962

53. Fast and Efficient Algorithms for Computational Electromagnetics on GPU Architecture
(2017) IEEE Transactions on Nuclear Science, 64 (7), art. no. 7944666, pp. 1983-1987.
DOI: 10.1109/TNS.2017.2713888

54. Overview of progress in European medium sized tokamaks towards an integrated plasma-edge/wall solution
(2017) Nuclear Fusion, 57 (10), art. no. 102014, .
DOI: 10.1088/1741-4326/aa6084

55. Overview of the RFX-mod fusion science activity
(2017) Nuclear Fusion, 57 (10), art. no. 102012, .
DOI: 10.1088/1741-4326/aa61cc

56. Recent progress of the JT-60SA project
(2017) Nuclear Fusion, 57 (10), art. no. 102002, .
DOI: 10.1088/1741-4326/aa5d01

57. H-Matrix Sparsification Applied to Bioelectromagnetic Analysis of Large Scale Human Models
(2017) IEEE Transactions on Magnetics, 53 (6), art. no. 7835148, .
DOI: 10.1109/TMAG.2017.2658684

58. A Volume Integral Formulation for Solving Eddy Current Problems on Polyhedral Meshes
(2017) IEEE Transactions on Magnetics, 53 (6), art. no. 7839936, .
DOI: 10.1109/TMAG.2017.2663112

59. Model-Order Reduction of Large-Scale State-Space Models in Fusion Machines via Krylov Methods
(2017) IEEE Transactions on Magnetics, 53 (6), art. no. 7835717, .
DOI: 10.1109/TMAG.2017.2660760

60. PEEC-Based Analysis of Complex Fusion Magnets during Fast Voltage Transients with H-Matrix Compression
(2017) IEEE Transactions on Magnetics, 53 (6), art. no. 7814211, .
DOI: 10.1109/TMAG.2017.2651638

61. T - Ω Formulation for Eddy-Current Problems with Periodic Boundary Conditions
(2017) IEEE Transactions on Magnetics, 53 (6), art. no. 7820194, .
DOI: 10.1109/TMAG.2017.2654498

62. Control System Optimization Techniques for Real-Time Applications in Fusion Plasmas: The RFX-mod Experience
(2017) IEEE Transactions on Nuclear Science, 64 (6), art. no. 7907167, pp. 1420-1425.
DOI: 10.1109/TNS.2017.2695372

63. Computation of Relative 1-Cohomology Generators from a 1-Homology Basis for Eddy Currents Boundary Integral Formulations
(2016) IEEE Transactions on Magnetics, 52 (10), art. no. 7494933, .
DOI: 10.1109/TMAG.2016.2582471

64. Sparsification of BEM Matrices for Large-Scale Eddy Current Problems
(2016) IEEE Transactions on Magnetics, 52 (3), art. no. 7203204, .
DOI: 10.1109/TMAG.2015.2488699

65. A Boundary Integral Method for Computing Eddy Currents in Non-Manifold Thin Conductors
(2016) IEEE Transactions on Magnetics, 52 (3), art. no. 7203104, .
DOI: 10.1109/TMAG.2015.2476841

66. A Novel Application of Selective Modal Analysis to Large-Scale Electromagnetic Devices
(2016) IEEE Transactions on Magnetics, 52 (3), art. no. 7203304, .
DOI: 10.1109/TMAG.2015.2480883

67. Feasibility study of a local active correction system of magnetic field errors in RFX-mod
(2015) Fusion Engineering and Design, 96-97, pp. 649-653.
DOI: 10.1016/j.fusengdes.2015.06.032

68. A novel approach for solving three dimensional eddy current problems in fusion devices
(2015) Fusion Engineering and Design, 96-97, pp. 703-706.
DOI: 10.1016/j.fusengdes.2014.12.002

69. Progress in the realization of the PRIMA neutral beam test facility
(2015) Nuclear Fusion, 55 (8), art. no. 083025, .
DOI: 10.1088/0029-5515/55/8/083025

70. Overview of the RFX-mod contribution to the international Fusion Science Program
(2015) Nuclear Fusion, 55 (10), art. no. 104012, .
DOI: 10.1088/0029-5515/55/10/104012

71. Optimal strategies for real-time sparse actuator compensation in RFX-mod MHD control operations
(2015) Fusion Engineering and Design, 96-97, pp. 690-693.
DOI: 10.1016/j.fusengdes.2015.06.066

72. Three-dimensional analysis of JT-60SA conducting structures in view of RWM control
(2015) Fusion Engineering and Design, 96-97, pp. 659-663.
DOI: 10.1016/j.fusengdes.2015.05.045

73. A boundary element method for eddy-current problems in fusion devices
(2015) Fusion Engineering and Design, 96-97, pp. 620-623.
DOI: 10.1016/j.fusengdes.2015.05.035

74. Advanced computational tools for the characterization of the dynamic response of mhd control systems in large fusion devices
(2015) IEEE Transactions on Magnetics, 51 (3), art. no. 7093417, .
DOI: 10.1109/TMAG.2014.2360158

75. A boundary integral method for computing eddy currents in thin conductors of arbitrary topology
(2015) IEEE Transactions on Magnetics, 51 (3), art. no. 7093423, .
DOI: 10.1109/TMAG.2014.2347894

76. Computation of stationary 3D halo currents in fusion devices with accuracy control
(2014) Journal of Computational Physics, 273, pp. 100-117.
DOI: 10.1016/j.jcp.2014.04.060

77. Lazy cohomology generators enable the use of complementarity for computing halo current resistive distribution in fusion reactors
(2014) IEEE Transactions on Magnetics, 50 (2), art. no. 6749185, pp. 489-492.
DOI: 10.1109/TMAG.2013.2281506

78. A novel tool for breakdown probability predictions on multi-electrode multi-voltage systems
(2014) IEEE Transactions on Magnetics, 50 (2), art. no. 6748923, pp. 93-96.
DOI: 10.1109/TMAG.2013.2281851

79. Calculation of 3-D magnetic fields produced by MHD active control systems in fusion devices
DOI: 10.1109/TMAG.2013.2279141

80. Overview of the RFX-mod fusion science programme
(2013) Nuclear Fusion, 53 (10), art. no. 104018, .
DOI: 10.1088/0029-5515/53/10/104018

81. Voltage holding optimization of the MITICA electrostatic accelerator
(2013) Fusion Engineering and Design, 88 (6-8), pp. 1038-1041.
DOI: 10.1016/j.fusengdes.2013.02.071

82. Numerical modeling of 3D halo current path in ITER structures
(2013) Fusion Engineering and Design, 88 (6-8), pp. 529-532.
DOI: 10.1016/j.fusengdes.2012.11.017

83. Iterative Axisymmetric Identification Algorithm (IAIA) for real-time reconstruction of the plasma boundary of ITER
(2013) Fusion Engineering and Design, 88 (6-8), pp. 1150-1155.
DOI: 10.1016/j.fusengdes.2012.11.018

84. Integrated procedure for halo current reconstruction in ITER
(2013) IEEE Transactions on Plasma Science, 41 (1), art. no. 6387318, pp. 257-262.
DOI: 10.1109/TPS.2012.2231703

85. Integration design of TPE-RX Neutral Beam Injector on RFX-mod
(2011) Fusion Engineering and Design, 86 (6-8), pp. 772-775.
DOI: 10.1016/j.fusengdes.2010.11.034

86. Adaptive plasma current control in RFX-mod
(2011) Fusion Engineering and Design, 86 (6-8), pp. 1005-1008.
DOI: 10.1016/j.fusengdes.2011.03.049

87. Overview of the RFX fusion science program
(2011) Nuclear Fusion, 51 (9), art. no. 094023, .
DOI: 10.1088/0029-5515/51/9/094023

88. Geometric formulation of Maxwell's equations in the frequency domain for 3D wave propagation problems in unbounded regions
(2010) CMES - Computer Modeling in Engineering and Sciences, 66 (2), pp. 117-134.

89. A discrete geometric approach to solving 2-D non-linear magnetostatic problems
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