

Umberto Gambardella *curriculum vitae***Present position**

first researcher, INFN (National Institute for High Energy Physics),
INFN Napoli Section,
Complesso Universitario M. S. Angelo, ed. G
80126 Napoli, Italy

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Education: Physics *laurea* (1981)

Positions:

1982		development scientist, temporary, APRE spa, Naples, Italy fulfill military duty in Italian Army
1983-1984		development scientist, staff, at Officine Galileo spa, Florence, Italy
1984-1986		development scientist, temporary, University of Trento, Italy, and Fondazione Galileo, Erice, Italy
1986- 2008		research scientist, staff, at INFN-Frascati National Lab., Italy
2009-06/11		1 st research scientist, staff, at INFN-Frascati National Lab., Italy
07/11-today		1 st research scientist, staff, at INFN-Napoli Section, Italy

Contracts & Jobs

1993		CNR (National Research Council), Potenza, Italy, research contract
1994		CNR (National Research Council), Potenza, Italy, research contract
1995		CNR (National Research Council), Potenza, Italy, research contract
1996		University of Salerno, Italy, lecturer
1997		University of Salerno, Italy, lecturer
1998		University of Sannio, Italy, lecturer
2000		University of Salerno, Italy, lecturer
2001		University of Salerno, Italy, lecturer
2004		CNR-INFN Salerno Research Unit, MgB2 application development program, consultant
2005		CNR-INFN Salerno Research Unit, MgB2 application development program, consultant
2006		CNR-INFN Salerno Research Unit, MgB2 application development program, consultant

Funding management:

1988-1991		Superconductivity and Cryogenic Group leader, INFN Frascati National Laboratory
1988		INFN MACS research program (materials for superconducting cavities), responsible
1999-2001		ENEA-INFN two years research contract on superconducting thin films, responsible
2000-03		CNR 5% research contract: magnetic properties of YBCO films grown on metallic tapes, supervisor
2000-03		ENEA-INFN research contract on superconducting magnet stability, responsible
2001-04		ENEA-INFN three years research contract on YBCO tapes, MgB2 films, and quench phenomena, responsible
2002-04		INFN Ma-Bo national project, Frascati local responsible
2002-04		ENEA-INFN research contract on superconducting thin films, responsible
2004-06		ENEA-INFN research contract, responsible.
2005-07		INFN MARIMBO national project, Frascati local responsible
2005		INFN NTA-CANDIA national project, Frascati local responsible
2006-12		INFN NTA-DISCORAP national project, local responsible (Frascati and Naples)
2007-09		ENEA-INFN research contract, responsible.
2009-11		MagaldiTechno sas CNR-SPIN research contract, responsible
2011		Criotec Impianti srl CNR-SPIN research contract, responsible
2012-13		ENEA CNR-SPIN research contract, responsible
2012-14		PONa3_0007 Potenziamento Infrastrutturale, program responsible
2014-17		MAGIX research project, INFN local responsible
2014-15		ENEA CNR-SPIN research contract, responsible
2015		CIEMAT (SP) CNR-SPIN magnetization measurements order, responsible
2017		ENEA CNR-SPIN research contract, responsible
2017-18		AMICI (Accelerator and Magnet Infrastructure for Cooperation and Innovation), EU Grant 731086
2017-18		QUAX experiment (INFN Gr.II experiment), local responsible

Activity fields:

1982	Thermal efficiency and energy saving in civil heating systems
1983-84	Cryogenic cooling, closed cycle cryocoolers, cryopumps - dynamical states in long Josephson junctions
1985-86	Dynamical states in Josephson junctions - dilution refrigerators – Held a technical course (160 h) on vacuum technologies at Alfa Romeo Avio spa (aircraft engines manufacturer and maintenance), Italy
1986-1991	Superconducting wiggler for synchrotron radiation (SCOW project, INFN Frascati) - Superconducting cavities for linear particle accelerators (LISA project, INFN Frascati)
1992-1999	1D and 2D array of Josephson junctions
1987-2004	High temperature superconducting materials, transport properties, thin film deposition, PLD analysis of film growth by means of optical spectroscopy
1996-2006	Transport properties of HTc superconductors and their magnetic properties in high magnetic field
2001-06	MgB ₂ film deposition, MgB ₂ tapes and wires characterization (dc transport and VSM magnetic measurements), MgB ₂ tape applications (pancake cryogen free magnet, racetrak)
2004-06	Nb ₃ Sn wire for NED (Next European Dipole) magnetic measurements with high field VSM
2005-07	Stability features in MgB ₂ tapes and HTS 2 nd G tapes (YBCO coated conductors)
2006-13	INFN DISCORAP project (complete realization of 4.5T fast ramped, bended, 6 ton, 4 meter long prototype s/c dipole for SIS300 synchrotron): VSM characterization, ac susceptibility measurements of low loss NbTi wire; design, and manufacturing of the cryostat for DISCORAP prototype dipole; cryostat/dipole integration.
2012-13	YBCO deep coating device; 2G tapes characterization: critical current, ac losses, stability and quench propagation in a 2D environment.
2012-14	INFN "PONa3_0007 "Potenziamento Infrastrutturale" (INFN, ENEA, UniSA, and CRdC joint program for infrastructural enhancement): design and procurement of 200W 4.5K cryogenic refrigeration system, 20 kA power supply and HTS current leads for accelerator magnet tests
2014-16	YBCO 2G tape applications, NbTi wires for dissipative applications
2016-18	Superconducting magnets for axion detector

Curriculum vitae of Ezio Todesco

Outline

- Born on June 9th 1965 in Bologna, Italy
- 1989: Technical Student at CERN and Master Degree in Physics, University of Bologna
- 1994: PhD in Physics, University of Bologna
- 1994-1996: Researcher at INFN, Sezione di Bologna on beam dynamics in accelerators
- Since 1998: Scientific staff at CERN in the Main Magnets and Superconductors Group

Main activities and responsibilities at CERN

- 1998-2000: Modeling field quality in the main LHC magnets during the prototype phase
- 2000-2006: Follow-up of field quality in the main LHC magnets, corrective actions to meet targets, and quality control of the production through magnetic measurements
- 2005: Senior staff
- Since 2006: Studies on magnet design in view of the LHC luminosity upgrade
- 2008-2011: Section leader of magnet design and analysis
- Since 2009: In charge of magnetic model of the LHC (FiDeL)
- Since 2010: Design studies of high field magnets in High Energy LHC
- Since 2011: In charge of the magnet workpackage in the High Luminosity LHC Design Study

Committees

- 1999-2008: Representative of the LHC Department in the Scientific Information Policy Board
- 2003-2011: Representative of the LHC Department in the Academic Training Committee
- Since 2013: Representative of TE-MSG Group in the CPEC

Dissemination (selection)

- 2007, 2009, 2012: Lectures on superconducting magnet at US Particle Accelerator School
- 2012: Lectures on superconducting magnets design at CAS
- 2008-2013: Lectures on superconducting magnets at CERN summer student school
- Since 2011: Talks at HEP conferences on LHC operation and upgrades
- Supervision of four PhD thesis in collaboration with Universities in France, Italy and Malta
- Full list of about 200 publications at www.cern.ch/ezio.todesco/public.htm

Summary of activity

After a 10 years experience in beam dynamics in particle accelerators, I joined CERN in 1998 to work on the field quality of the main LHC dipoles and quadrupoles. During the production phase of the LHC magnets, I used the modelling experience acquired in the prototype phase to steer the field quality towards the beam dynamics targets, with three corrective actions on the magnet design. I have been leading a team of three academic engineers to carry out the analysis, validation and storage of the room temperature magnetic measurements. This also allowed to make a quality assurance, as done in RHIC, spotting 17 faulty assemblies in the LHC dipoles, and locating 19 electrical shorts.

At the end of the LHC magnet production I started to work on magnet design in view of the LHC luminosity upgrade. I first developed with L. Rossi approximated analytical models to have an exhaustive exploration of the wide parameter space of superconducting magnets (aperture,

field/gradient, coil width, superconductor properties). Then, a similar approach was developed with J. P. Koutchouk to deal with the optics layout around the interaction point, finding out the relation between aperture, gradient and beam size. Joining the two models, we were able to work out optimal solutions for the new triplet. This has been the base to launch the proposal for the Nb-Ti LHC upgrade in 2007 (phase I), and to prepare the ground for the Nb₃Sn LHC upgrade (phase II, later named HiLumi).

In 2008, at the end of the magnet production and installation, I lead the novel section of magnet design and analysis, with eight scientific staff and a total of about 20 people. The mandate was focused on the new design activities of the magnet group (luminosity upgrade in Nb-Ti and Nb₃Sn), and on the support to the LHC commissioning. During my mandate, I launched an initiative to test at CERN Nb₃Sn magnets made by the US collaboration, to rapidly acquire experience in this novel technology. M. Bajko, who successfully led this activity in my section, has been later appointed as section leader of the magnet test facility. The section has been in charge of the design of the Nb-Ti option for the inner triplet upgrade (MQXC), and of the upgrade of the test station with a 13 T Nb₃Sn dipole (Fresca2).

The 2008 commissioning showed an unexpected weakness in the magnet performance of the dipoles of one manufacturer: I took the initiative of carrying out an additional analysis of LHC production tests, finding out some evidences of a weaker family of magnets already in these data. In collaboration with the colleagues of the magnet protection group, I worked out a model to develop estimates of the LHC energy as a function of the number of quenches needed during commissioning. I also found out a novel law for training based on a slip stick model, showing that the maximum performance is asymptotically reached via an exponential in the number of quenches.

In 2009 I took from L. Bottura the responsibility of the LHC Field Model, which provides the conversion from the optics field and gradients to the magnet currents to be used in the LHC control system. The team, involving about 20 colleagues from the beam dynamics, operation and magnet groups, has closely followed the LHC commissioning. During Run I, we gave indication on the precycle strategy, decay and snapback corrections, and on the corrector settings. The good knowledge of the magnet behaviour is considered as one of the key elements of the success of the LHC run I.

In 2010 I made with G. De Rijk a preliminary study of a 11 T Nb₃Sn dipole to be installed in the LHC dispersion suppressor regions to create space for additional collimators. This proposal has been the base to launch the 11 T project in collaboration with FNAL. In 2011 I started to work on the first concepts for a 20 T dipole design for the High-Energy LHC.

In 2011 I was asked to prepare the magnet part in the design study proposal for the LHC luminosity upgrade. After the successful approval from UE, I have been in charge of the magnet workpackage. In close contact with the colleagues working on optics, energy deposition and cooling, we were able to rapidly fix the magnet apertures, and to agree a baseline layout for the LHC in the HiLumi era. The design study has been turned into project in 2013. In this activity, I set collaborations to attribute the design and prototyping of the different magnet types needed in the new lattice (triplet, separation dipoles, correctors, ...) to external laboratories: LARP (US), KEK (Japan), CIEMAT (Spain), CEA-Saclay (France) and INFN (Italy). I am presently following these collaborations and preparing the transition from the design to the construction phase. At the end of 2013 I presented a first tentative schedule for prototypes and production of the HiLumi LHC magnets.

Publication list of Ezio Todesco (a selection of more recent works)

General references about superconducting magnets

- A. Tollestrup, E. Todesco, 'The development of superconducting magnets for use in particle accelerators: from Tevatron to the LHC', *Rev. Sci. Accel. Tech.* **1** 185-210 (2008), also in CERN AT **2008-025** (MCS) (2007). [Pdf](#)
- L. Rossi, E. Todesco, 'Superconducting magnets', in: "The Large Hadron Collider: a marvel of technology", edited by L. Evans, (EPFL Press, Lausanne, 2009) pp. 69-85. [Html info](#)

Magnet design

- L. Rossi, E. Todesco, 'Electromagnetic design of superconducting quadrupoles', *Phys. Rev. STAB* **9** 102401 (2006), also in CERN AT **2006-016** (MCS) (2006). [Pdf](#)
- L. Rossi, E. Todesco, 'Electromagnetic design of superconducting dipoles based on sector coils', *Phys. Rev. STAB* **10** 112401 (2007), also in CERN AT **2007-032** (MCS) (2007). [Pdf](#)
- B. Bellesia, J. P. Koutchouk, E. Todesco, 'Field quality in low-beta superconducting quadrupoles and impact on the beam dynamics for the Large Hadron Collider', *Phys. Rev. STAB* **10** 062401 (2007), also in CERN LHC Project Report (2007). [Pdf](#)
- P. Fessia, F. Regis, E. Todesco, 'Parametric analysis of forces and stresses in superconducting dipoles' presented at ASC08, *IEEE Trans. Appl. Supercond.* **19** (2009) 1203-1207, also in CERN AT **2008** (2008). [Pdf](#)
- P. Fessia, F. Regis, E. Todesco, 'Parametric analysis of forces and stresses in superconducting dipoles' presented at ASC08, *IEEE Trans. Appl. Supercond.* **19** (2009) 1203-1207, also in CERN AT **2008** (2008). [Pdf](#)
- L. Rossi, E. Todesco, 'Electromagnetic efficiency of block design in superconducting dipoles' presented at ASC08, *IEEE Trans. Appl. Supercond.* **19** (2009) 1186-1190, also in CERN-AT-**2008-042** (2008). [Pdf](#)
- F. Borgnolutti, S. Caspi, P. Ferracin, V. V. Kashikhin, G. Sabbi, G. Velev, E. Todesco, A. Zlobin, 'Reproducibility of the coil positioning in Nb3Sn magnet models through magnetic measurements' presented at ASC08, *IEEE Trans. Appl. Supercond.* **19** (2009) 1000-1005, also in CERN-AT **2008-044** (2008). [Pdf](#)
- F. Borgnolutti, E. Todesco, A. Mailfert, 'A Method for Coil Design of Superconducting Quadrupoles Based on Sector Coils and Fourier Series' presented at MT-21, *IEEE Trans. Appl. Supercond.* **20** (2010) 1790-3, also in CERN ATS **169** (2010). [Pdf](#)
- E. Todesco, 'Quench limits in the next generation of magnets', CERN Yellow Report **2013-006** 10-16(2013). [Pdf](#)

LHC field model and support to commissioning

- C. Lorin, A. Siemko, E. Todesco, A. Verweij, 'Predicting the Quench Behavior of the LHC Dipoles during Commissioning' presented at MT-21, *IEEE Trans. Appl. Supercond.* **20** (2010) 135-9, also in CERN ATS **2010-172** (2010). [Pdf](#)
- C. Lorin, P. P. Granieri, E. Todesco, 'Slip-stick mechanism in training the superconducting magnets in the Large Hadron Collider', *IEEE Trans. Appl. Supercond.* **21** (2011) 3555-60, also in CERN ATS **2012-003** (2011). [Pdf](#)
- E. Todesco, C. Lorin, M. Bajko, 'Energy of the LHC after the 2013 shutdown', Chamonix workshop, CERN ATS **2012-006** 265-267 (2012). [Pdf](#)
- L. Bottura, M. Lamont, E. Todesco, W. Venturini Delsolaro, R. Wolf 'Pre-Cycles of the LHC Magnets during Operation', CERN ATS **2010-174** (2010). [Pdf](#)
- E. Todesco, N. Aquilina, B. Auchmann, L. Bottura, M. Buzio, R. Chritin, G. Deferne, L. Deniau, L. Fiscarelli, P. Hagen, J. Garcia Perez, M. Giovannozzi, M. Lamont, G. Montenero, G. Muller, M. Pereira, S. Redaelli, V. Remondino, N. Sammut, F. Schmidt, R. Steinhagen, M. Strzelczyk, R. Tomas, W. Venturini Delsolaro, J. Wenninger, R. Wolf, 'The Magnetic Model of the LHC in the Early Phase of Beam Commissioning', *2010 International Particle Accelerator Conference* 55-7 (2010), also in CERN ATS **2010-154** (2010). [Pdf](#)

- N. Aquilina, M. Lamont, N. Sammut, M. Strzelczyk, E. Todesco, 'Chromaticity decay due to superconducting dipoles on the injection plateau of the Large Hadron Collider', *Phys. Rev. STAB* **15** (2012) 032401 also in CERN ATS **2012-056** (2012). [Pdf](#)
- E. Todesco, N. Aquilina, M. Giovannozzi, M. Lamont, F. Schmidt, R. Steinhagen, M. Strzelczyk, R. Tomas, 'The Magnetic Model of the LHC during the 3.5 TeV run', *2012 International Particle Accelerator Conference* 2194-6 (2012), also in CERN ATS **2012-195** (2012). [Pdf](#)

LHC luminosity upgrade

- E. Todesco, J. P. Koutchouk, 'Scaling laws for beta* in the LHC interaction regions', *CERN* **2007-002** (2007) 61-70. [Pdf](#)
- J. P. Koutchouk, L. Rossi, E. Todesco, 'A solution for phase-one upgrade of the LHC low-beta quadrupoles based on Nb-Ti', CERN LHC Project Report **1000** (2007). [Pdf](#)
- L. Bottura, G. De Rijk, L. Rossi, E. Todesco, 'Advanced accelerator magnets for upgrading the LHC', presented at MT-22, *IEEE Trans. Appl. Supercond.* **22** (2012) in press, also in CERN ATS **2012-045** (2012). [Pdf](#)
- G. De Rijk, A. Milanese, E. Todesco, '11 Tesla Nb3Sn dipoles for phase II collimation in the Large Hadron Collider', CERN SLHC Project Note **19** (2010). [Pdf](#)
- E. Todesco, H. Allain, G. Ambrosio, F. Borgnolutti, F. Cerutti, D. Dietderich, L. Esposito, H. Felice, P. Ferracin, G. Sabbi, P. Wanderer, R. Van Weelderen, 'Design studies for the low-beta quadrupoles for the LHC luminosity upgrade', presented at ASC, *IEEE Trans. Appl. Supercond.* **23** (2013), also in CERN ATS **2013-0018** (2013). [Pdf](#)
- Q. Xu, T. Nakamoto, T. Ogitsu, K. Sasaki, A. Terashima, K. Tsuchiya, A. Yamamoto, E. Todesco, 'Conceptual design of a large-aperture dipole magnet for HL-LHC upgrade', presented at MT-22, *IEEE Trans. Appl. Supercond.* **22** (2012), also in CERN ATS **2012-051** (2012). [Pdf](#)
- E. Todesco, M. Lamont, L. Rossi, 'High Luminosity LHC and High Energy LHC', *CMS workshop: Perspectives on Physics and on CMS at very high luminosity* 15-28. (2012), also in CERN ATS **2012-161** (2012). [Pdf](#)
- E. Todesco, H. Allain, G. Ambrosio, G. Arduini, F. Cerutti, R. De Maria, L. Esposito, S. Fartoukh, P. Ferracin, H. Felice, R. Gupta, R. Kersevan, N. Mokhov, T. Nakamoto, I. Rakno, J. M. Rifflet, L. Rossi, G. L. Sabbi, M. Segreti, F. Toral, Q. Xu, P. Wanderer, R. van Weelderen, 'A First Baseline for the Magnets in the High Luminosity LHC Insertion Regions', presented at MT-23, *IEEE Trans. Appl. Supercond.* **24** (2014), also in CERN ATS **2014-0036** (2014). [Pdf](#)

High field magnets for future high energy colliders

- L. Rossi, E. Todesco, 'Conceptual design of 20 T dipoles for High-Energy LHC', CERN Yellow Report **2011-003** 13-9 (2011). [Pdf](#)
- E. Todesco, L. Bottura, G. De Rijk, L. Rossi, 'Dipoles for High-Energy LHC', presented at MT-23, *IEEE Trans. Appl. Supercond.* **24** (2014), also in CERN ATS **2014-0037** (2014). [Pdf](#)

Editor

- E. Todesco, Ed., 'WAMSDO workshop: accelerator magnet superconductors, design and optimization', *CERN Yellow Report* **2009-001** (2009). [Pdf](#)
- E. Todesco, F. Zimmermann, ed. 'The High-Energy LHC', CERN Yellow Report **2011-003** (2011). [Pdf](#)
- E. Todesco, ed. 'Proceedings of WAMSDO: Workshop on Accelerator Magnet Superconductors, Design and Optimization', CERN Yellow Report **2013-006** (2013). [Pdf](#)

www.cern.ch/ezio.todesco/public.htm

INFORMAZIONI PERSONALI

Nome: Stefania Farinon

Data di nascita: 28 Maggio 1969

Luogo di nascita: Genova

Indirizzo: Via Dodecaneso 33, 16146 Genova – ITALY

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FORMAZIONE E OCCUPAZIONE

Dal 2007 ad oggi: Primo Tecnologo INFN.

Dal 2001 to 2006: Tecnologo INFN.

Dal 1996 to 2001: Posizione a tempo determinato nell'INFN per una collaborazione tecnica nell'ambito dell'esperimento CMS, con particolare riguardo allo studio dei disturbi e del comportamento meccanico della bobina superconduttrice.

Dal 1994 to 1996: Borsa di Studio INFN per la progettazione magnetica meccanica e termica del solenoide superconduttore CMS.

1994: Laurea in Fisica discutendo la tesi "Studio teorico e sperimentale della risposta spettrale di superconduttori esposti a campi magnetici variabili".

PRINCIPALI PROGETTI DI RICERCA E COLLABORAZIONI SCIENTIFICHE

1. Progettazione di un prototipo di dipolo ad alto campo (16 T) per il progetto FCC (Future Circular Collider) del CERN (dal 2015)
2. Progettazione e costruzione di un prototipo di dipolo superconduttore D2 per l'High Luminosity upgrade del Large Hadron Collider (dal 2014).
3. Progettazione e costruzione di un calorimetro per la misura dell'attività di una sorgente radioattiva di cerio per l'esperimento europeo SOX (dal 2014).
4. Progettazione e costruzione di un prototipo di uno dei 27 moduli che costituiscono il Transport Solenoid dell'esperimento Mu2e a Fermilab (2014-2015)
5. Partecipazione all'esperimento europeo SR2S per la progettazione di uno schermo superconduttivo per la protezione degli astronauti durante missioni spaziali di lunga durata (2013-2015).
6. Studio del rumore elettromagnetico per l'upgrade del rivelatore di onde gravitazionale Advanced Virgo (dal 2013).
7. Progettazione dei magneti superconduttori della zona di interazione dell'acceleratore SuperB, un collisionatore ad altissima luminosità che è stato pensato per il Cabibbo Lab di Tor Vergata (2011-2013).
8. Progettazione e costruzione di un prototipo di dipolo superconduttore curvo rapidamente pulsato per il sincrotrone SIS300 di FAIR, Facility for Antiproton and Ion Research, GSI, Darmstadt, DE (2005-2010).
9. Progettazione e costruzione del solenoide superconduttore CMS per LHC in collaborazione con il CERN (1995-2005)
10. Sviluppo di superconduttori di Nb₃Sn (niobio-tri-stagno) ad alte prestazioni per l'esperimento europeo NED (Next European Dipole).
11. Progettazione del solenoide superconduttore del ciclotrone SCENT, Superconducting Cyclotron for Exotic Nuclei and Therapy (2003-2004), per i Laboratori Nazionali del Sud dell'INFN (Catania).
12. Progettazione di un gantry a ioni superconduttivo per radioterapia oncologica (2001-2003).
13. Progettazione e costruzione del solenoide superconduttore BABAR (1994-1996) in collaborazione con SLAC (Stanford Linear Accelerator Center, San Francisco, USA).

ALTRI INCARICHI

Dal 2005 al 2008 Professore a Contratto del Corso di Laurea in Fisica presso l'Università di Genova per il Corso del 5° anno della Laurea Specialistica "Calcolo ad elementi finiti per applicazioni in problemi di fisica".

Dal 2005 al 2014 Editore della rivista scientifica *IEEE Transactions on Applied Superconductivity* per i numeri che contengono le pubblicazioni delle conferenze *Applied Superconductivity Conference* e *Magnet Technology Conference*.

Relatore delle seguenti Tesi di Ingegneria Meccanica:

1. Luca Reina – 25 Gennaio 2001 - Ottimizzazione delle variabili caratteristiche di un magnete superconduttore mediante analisi FEM pilotate da Algoritmi Genetici.
2. Thomas Coltella – 28 Febbraio 2002 - Progetto meccanico delle strutture di contenimento di un magnete superconduttore per adroterapia oncologica.

PRINCIPALI PUBBLICAZIONI

1. **A high precision calorimeter for the SOX experiment**
By: Papp, L.; Agostini, M.; Altenmueller, K.; et al.
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 824 Pages: 699-700 Published: JUL 11 2016 DOI: 10.1016/j.nima.2015.11.046
2. **Mu2e Transport Solenoid Prototype Design and Manufacturing**
By: Fabbriatore, P.; Ambrosio, G.; Cheban, S.; et al.
IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY Volume: 26 Issue: 4 Article Number: 4500505 Published: JUN 2016 DOI: 10.1109/TASC.2016.2527502
3. **The Design of Superconducting Separation Dipoles D2 for the High Luminosity Upgrade of LHC**
By: Farinon, S.; Fabbriatore, P.; Curreli, S.; et al.
IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY Volume: 26 Issue: 4 Article Number: 4001504 Published: JUN 2016 DOI: 10.1109/TASC.2016.2523060
4. **Observation of Gravitational Waves from a Binary Black Hole Merger**
By: LIGO Sci Collaboration; Virgo Collaboration
PHYSICAL REVIEW LETTERS Volume: 116 Issue: 6 Article Number: 061102 Published: FEB 11 2016 DOI: 10.1103/PhysRevLett.116.061102
5. **Experimental Study of the Mechanical Characteristics of SIS300 Cos-Theta Dipolar Coils**
By: Farinon, S.; Fabbriatore, P.; Musenich, R.; et al.
IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY Volume: 25 Issue: 2 Article Number: 4003605 Published: APR 2015 DOI: 10.1109/TASC.2015.2396931
6. **2D and 3D numerical modeling of experimental magnetization cycles in disks and spheres**
By: Farinon, S.; Iannone, G.; Fabbriatore, P.; et al.
SUPERCONDUCTOR SCIENCE & TECHNOLOGY Volume: 27 Issue: 10 Article Number: 104005 Published: OCT 2014 DOI: 10.1088/0953-2048/27/10/104005
7. **Experimental investigation of the transverse resistivity in Nb3Sn wires through ac susceptibility**
By: Fabbriatore, P.; Farinon, S.; Corato, V.; et al.
SUPERCONDUCTOR SCIENCE & TECHNOLOGY Volume: 26 Issue: 8 Article Number: 085001 Published: AUG 2013 DOI: 10.1088/0953-2048/26/8/085001
8. **Superconducting Magnets for Astroparticle Shielding in Interplanetary Manned Missions**
By: Battiston, R.; Burger, W. J.; Calvelli, V.; et al.
IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY Volume: 23 Issue: 3 Article Number: 4101604 Part: 2 Published: JUN 2013 DOI: 10.1109/TASC.2013.2239333
9. **Applicability of the Adaptive Resistivity Method to Describe the Critical State of Complex Superconducting Systems**
By: Farinon, S.; Fabbriatore, P.; Grilli, F.; et al.
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM Volume: 25 Issue: 7 Pages: 2343-2350 Published: OCT 2012 DOI: 10.1007/s10948-012-1682-2

- 10. Design, Construction and Test of a Model Superconducting Quadrupole for the Interaction Region of Super B Factory**
By: Bosi, F.; Paoloni, E.; Fabbriatore, P.; et al.
IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY Volume: 22 Issue: 3 Article Number: 4000104
Published: JUN 2012 DOI: 10.1109/TASC.2011.2179389
- 11. Refined modeling of superconducting double helical coils using finite element analyses**
By: Farinon, S.; Fabbriatore, P.
SUPERCONDUCTOR SCIENCE & TECHNOLOGY Volume: 25 Issue: 6 Article Number: 065006 Published: JUN 2012 DOI: 10.1088/0953-2048/25/6/065006
- 12. A Model Dipole for FAIR SIS300: 3D Design of the Mechanical Structure**
By: Farinon, S.; Fabbriatore, P.; Musenich, R.; et al.
IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY Volume: 21 Issue: 3 Pages: 1804-1807 Part: 2
Published: JUN 2011 DOI: 10.1109/TASC.2010.2084553
- 13. Critical state and magnetization loss in multifilamentary superconducting wire solved through the commercial finite element code ANSYS**
By: Farinon, S.; Fabbriatore, P.; Goemoery, F.
SUPERCONDUCTOR SCIENCE & TECHNOLOGY Volume: 23 Issue: 11 Article Number: 115004 Published: NOV 2010 DOI: 10.1088/0953-2048/23/11/115004
- 14. The transverse resistivity in S/C multifilament wires studied through ac susceptibility measurements**
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