

Curriculum Docente: Stefano Riboldi

Foto



Titoli

1998 : Laurea in Ingegneria Elettronica, Politecnico di Milano

2001 : Dottorato di Ricerca in Ingegneria Elettronica, Politecnico di Milano

Curriculum professionale

Membro associazione IEEE dal 2001

Fogarty fellowship presso i National Institutes of Health (NIH), Maryland, US nel 2002/03

Ricercatore confermato in Elettronica presso il Dipartimento di Fisica dal 2005

Responsabile locale esperimento CLYC nel 2015/16

Co-responsabile dell'elettronica di front-end dell'esperimento L-200 (WBS 1.07) dal 2018

Responsabile locale esperimento GERDA dal 2019

Attività didattica:

- Elettronica Digitale dal 2005
- Laboratorio di Elettronica Digitale (docente responsabile) dal 2005 al 2017
- Laboratorio di Ottica Elettronica e Fisica Moderna (II modulo) dal 2018

Ambito di ricerca

Elettronica analogica, a basso rumore e criogenica, elettronica digitale e processamento di segnali per applicazioni di fisica nucleare, applicazioni biomedicali e applicazioni di potenza mirate al risparmio energetico.

Pubblicazioni

([Pubblicazioni sull'Archivio Istituzionale della Ricerca](#))

Titolo del prodotto	Data di pubblicazione del prodotto	Rivista: denominazione	Identificativo DOI
Fast neutron detection efficiency of 6Li and 7Li enriched CLYC scintillators using an Am-Be source	2018-11	JOURNAL OF INSTRUMENTATION	10.1088/1748-0221/13/11/P11010
GERDA results and the future perspectives for the neutrinoless double beta decay search using 76Ge	2018-03-30	INTERNATIONAL JOURNAL OF MODERN PHYSICS A	10.1142/S0217751X18430042

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Improved Limit on Neutrinoless Double- β Decay of Ge 76 from GERDA Phase II	2018-03-26	PHYSICAL REVIEW LETTERS	10.1103/PhysRevLett.120.132503
Upgrade for Phase II of the Gerda experiment	2018-03-18	THE EUROPEAN PHYSICAL JOURNAL. C, PARTICLES AND FIELDS	10.1140/epjc/s10052-018-5812-2
Background-free search for neutrinoless double- β^2 decay of 76 Ge with GERDA	2017-04-06	NATURE	10.1038/nature21717
Active background suppression with the liquid argon scintillation veto of GERDA Phase II	2017	JOURNAL OF PHYSICS. CONFERENCE SERIES	10.1088/1742-6596/888/1/012238
Experimental study of the isovector giant dipole resonance in Zr 80 and Rb 81	2017	PHYSICAL REVIEW C	10.1103/PhysRevC.95.014312
First results from GERDA Phase II	2017	JOURNAL OF PHYSICS. CONFERENCE SERIES	10.1088/1742-6596/888/1/012030
First results of GERDA Phase II and consistency with background models	2017	JOURNAL OF PHYSICS. CONFERENCE SERIES	10.1088/1742-6596/798/1/012106
Limits on uranium and thorium bulk content in GERDA Phase I detectors	2017	ASTROPARTICLE PHYSICS	10.1016/j.astropartphys.2017.03.003
Study of the GERDA Phase II background spectrum	2017	JOURNAL OF PHYSICS. CONFERENCE SERIES	10.1088/1742-6596/888/1/012106
The large enriched germanium experiment for neutrinoless double beta decay (LEGEND)	2017		10.1063/1.5007652
Position sensitivity in large spectroscopic LaBr3:Ce crystals for Doppler broadening correction	2016-12-11	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2016.09.039
Flux modulations seen by the muon veto of the GERDA experiment	2016-11	ASTROPARTICLE PHYSICS	10.1016/j.astropartphys.2016.08.002

Titolo del prodotto	Data di pubblicazione del prodotto	Rivista: denominazione	Identificativo DOI
Fast neutron measurements with 7Li and 6Li enriched CLYC scintillators	2016-04-02	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2016.03.090
Search of Neutrinoless Double Beta Decay with the GERDA Experiment	2016-04	NUCLEAR AND PARTICLE PHYSICS PROCEEDINGS	10.1016/j.nuclphysbps.2015.09.303
3" x 3" LaBr3:Ce position sensitivity with multi-anode PMT readout	2016-03-10		10.1109/NSSMIC.2014.7431199
Measurement of β - decay continuum spectrum of ¹³⁸ La	2016-03-10		10.1109/NSSMIC.2014.7431201
Thermal and fast neutron detection with two CLYC scintillators	2016-03-10		10.1109/NSSMIC.2014.7431190
The CLYC-6 and CLYC-7 response to γ -rays, fast and thermal neutrons	2016-01-21	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2015.11.119
Limit on the radiative neutrinoless double electron capture of Ar-36 from GERDA Phase I	2016	THE EUROPEAN PHYSICAL JOURNAL. C, PARTICLES AND FIELDS	10.1140/epjc/s10052-016-4454-5
Measurement of fast neutron detection efficiency with 6Li and 7Li enriched CLYC scintillators	2016	JOURNAL OF PHYSICS. CONFERENCE SERIES	10.1088/1742-6596/763/1/012006
Preliminary investigation of scintillator materials properties: SrI2:Eu, CeBr3 and GYGAG:Ce for gamma rays up to 9 MeV	2015-12-21	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2015.09.065

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Isospin Mixing in ^{80}Zr : from Finite to Zero Temperature	2015-11-27	PHYSICAL REVIEW LETTERS	10.1103/PhysRevLett.115.222502
$2\nu\beta\beta$ decay of ^{76}Ge into excited states with GERDA phase I	2015-11	JOURNAL OF PHYSICS. G, NUCLEAR AND PARTICLE PHYSICS	10.1088/0954-3899/42/11/115201
Results on $\beta\beta$ decay with emission of two neutrinos or Majorons in ^{76}Ge from GERDA Phase I	2015-09-09	THE EUROPEAN PHYSICAL JOURNAL. C, PARTICLES AND FIELDS	10.1140/epjc/s10052-015-3627-y
Improvement of the energy resolution via an optimized digital signal processing in GERDA Phase I	2015-06-09	THE EUROPEAN PHYSICAL JOURNAL. C, PARTICLES AND FIELDS	10.1140/epjc/s10052-015-3409-6
Measurement of β -decay continuum spectrum of ^{138}La	2015-05-01	EUROPHYSICS LETTERS	10.1209/0295-5075/110/42002
Production, characterization and operation of ^{76}Ge enriched BEGe detectors in GERDA	2015-02-03	THE EUROPEAN PHYSICAL JOURNAL. C, PARTICLES AND FIELDS	10.1140/epjc/s10052-014-3253-0
Investigation on gamma-ray position sensitivity at 662 keV in a spectroscopic $3'' \times 3''$ LaBr_3 : Ce scintillator	2015-02-01	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2014.10.062
A 16 channels NIM module for pure LaBr_3 and $\text{LaBr}_3\text{-NaI}$ phoswich detectors	2015		10.1109/NSSMIC.2015.7581805
Cryogenic readout techniques for Germanium detectors	2015		10.1109/ANIMMA.2015.7465549
Improvement of the GERDA Ge Detectors Energy Resolution by an Optimized Digital Signal Processing	2015	PHYSICS PROCEDIA	10.1016/j.phpro.2014.12.069
Phototube non-linearity correction technique	2015		10.1088/1742-6596/620/1/012007
Study of the soft dipole modes in ^{140}Ce via inelastic scattering of ^{17}O	2014-05	PHYSICA SCRIPTA	10.1088/0031-8949/89/5/054016
The background in the $0\nu\beta\beta$ experiment Gerda	2014-04-04	THE EUROPEAN PHYSICAL JOURNAL. C, PARTICLES AND FIELDS	10.1140/epjc/s10052-014-2764-z
Characterization of large volume $3.5'' \times 8''$ LaBr_3 : Ce detectors for the HECTOR+ array	2014		10.1051/epjconf/20146611008

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Identification and rejection of scattered neutrons in AGATA	2014	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2013.09.035
Isospin mixing at finite temperature in ^{80}Zr	2014	EPJ WEB OF CONFERENCES	10.1051/epjconf/20146602018
Study of the $\hat{1}^3$ decay of high-lying states in ^{208}Pb via inelastic scattering of ^{17}O ions	2014	EPJ WEB OF CONFERENCES	10.1051/epjconf/20146602023
Results on neutrinoless double- β decay of ^{76}Ge from phase I of the GERDA experiment	2013-09-19	PHYSICAL REVIEW LETTERS	10.1103/PhysRevLett.111.122503
Response of AGATA segmented HPGe detectors to gamma rays up to 15.1MeV	2013-03-21	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2012.12.084
3" x 3" LaBr3:Ce detector response to monochromatic protons	2013		10.1109/NSSMIC.2013.6829648
Characterization of large volume 3.5 " x 8 " LaBr3:Ce detectors	2013	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2013.07.084
Digital signal processing techniques for HPGe detectors operation	2013		10.1109/NSSMIC.2013.6829741
Liquid argon scintillation read-out with silicon devices	2013	JOURNAL OF INSTRUMENTATION	10.1088/1748-0221/8/10/C10007

Titolo del prodotto	Data di pubblicazione del prodotto	Rivista: denominazione	Identificativo DOI
Measurement of the half-life of the two-neutrino double beta decay of ^{76}Ge with the GERDA experiment	2013	JOURNAL OF PHYSICS. G, NUCLEAR AND PARTICLE PHYSICS	10.1088/0954-3899/40/3/035110
Performances of a 1"×1" Cs ₂ LiYCl ₆ scintillator detector	2013		10.1109/NSSMIC.2013.6829614
Position sensitivity in a 3" × 3" LaBr ₃ :Ce scintillator	2013		10.1109/NSSMIC.2013.6829642
Pulse shape discrimination for Gerda phase I data	2013	THE EUROPEAN PHYSICAL JOURNAL. C, PARTICLES AND FIELDS	10.1140/epjc/s10052-013-2583-7
Status report of the GERDA experiment phase I	2013	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2012.11.101
The Gerda experiment for the search of $0\nu\beta\beta$ decay in ^{76}Ge	2013	THE EUROPEAN PHYSICAL JOURNAL. C, PARTICLES AND FIELDS	10.1140/epjc/s10052-013-2330-0
Study of high-lying states in Pb-208 with the AGATA Demonstrator	2012-01-01		10.3254/978-1-60750-974-5-417
A 16 channels multi detector pulse shape amplifier with serialized readout	2012		10.1109/NSSMIC.2012.6551228
A flexible general purpose VME data acquisition system in a Kmax environment	2012		10.1109/NSSMIC.2012.6551273
AGATA-Advanced GAMMA Tracking Array	2012	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2011.11.081
Active voltage divider for improved estimation of interacting radiation energy with photomultiplier tubes coupled to high light yield scintillators	2012		10.1109/NSSMIC.2011.6154296


Titolo del prodotto	Data di pubblicazione del prodotto	Rivista: denominazione	Identificativo DOI
Improvement of the "CC2" charge sensitive preamplifier for the GERDA phase II experiment	2012		10.1109/NSSMIC.2012.6551209
Improving performance of fast high resolution LaBr3 scintillation detectors in case of pulse pile-up effects	2012		10.1109/NSSMIC.2012.6551103
Neutron-skin thickness from the study of the anti-analog giant dipole resonance	2012		10.1063/1.4764237
Response of AGATA segmented HPGe detectors to gamma-rays up to 15.1 MeV	2012		10.1109/NSSMIC.2011.6154591
Neutrons for medicine	2011-09-06		
Conceptual design and infrastructure for the installation of the first AGATA sub-array at LNL	2011	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2011.06.004
Recent developments in gamma-ray spectroscopy with new scintillators, LaBr3(Ce), to investigate nuclear structure at high excitation and far from stability	2011		10.3254/978-1-60750-974-5-423
Study of high-lying states in 208Pb with the AGATA demonstrator	2011	ACTA PHYSICA POLONICA B	10.5506/APhysPolB.42.653
HPGe detectors timing using pulse shape analysis techniques	2010-08	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2010.02.273
Cryogenic performance of a low-noise JFET-CMOS preamplifier for HPGe detectors	2010-04	IEEE TRANSACTIONS ON NUCLEAR SCIENCE	10.1109/TNS.2009.2038697

Titolo del prodotto	Data di pubblicazione del prodotto	Rivista: denominazione	Identificativo DOI
A low-noise charge sensitive preamplifier for Ge spectroscopy operating at cryogenic temperature in the GERDA experiment	2010	2010 IEEE Nuclear Science Symposium and Medical Imaging Conference (2010 NSS/MIC)	10.1109/NSSMIC.2010.5873998
A multi-channel digital acquisition system for Ge spectroscopy in the GERDA experiment	2010	2010 IEEE Nuclear Science Symposium and Medical Imaging Conference (2010 NSS/MIC)	10.1109/NSSMIC.2010.5873860
Analysis and first order correction of signal saturation effects in photomultiplier tubes for improved estimation of interacting radiation energy in Lanthanum bromide scintillators	2010		10.1109/NSSMIC.2010.5874087
Characterization of segmented HPGe detectors using Pulse Shape Comparison methods	2010		10.1109/NSSMIC.2010.5873875
Position sensitivity in 3 × 3 LaBr3:Ce scintillators	2010		10.1109/NSSMIC.2010.5873746
Pulse shape results of LaBr3 and BaF2 scintillator obtained with a 16 ch. fast analog stretcher module	2010		10.1109/NSSMIC.2010.5873761
RS algorithm for 3D localization of γ interactions in segmented HPGe detectors : tests with calculated and experimental signal basis	2010		10.1109/NSSMIC.2010.5873893
Alpha-gamma discrimination by pulse shape in LaBr3:Ce and LaCl3:Ce	2009-04	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2009.01.101
Dispositivo digitale di auscultazione ad alta reiezione di rumore ambientale e relativo procedimento di funzionamento = Digital device for auscultations with high environmental noise rejection	2009-01-14		
A multi-channel digital acquisition system for nuclear spectroscopy experiments	2009		10.1109/NSSMIC.2009.5402187
Adaptive digital trigger architecture in FPGA	2009		10.1109/NSSMIC.2009.5401960
High performance analog front-end for digital spectroscopy	2009		10.1109/NSSMIC.2009.5401714

Titolo del prodotto	Data di pubblicazione del prodotto	Rivista: denominazione	Identificativo DOI
Non-linear least squares fitting in FPGA devices for digital spectroscopy	2009		10.1109/NSSMIC.2009.5401957
Setup of cryogenic front-end electronic systems for germanium detectors read-out	2009		10.1109/NSSMIC.2009.5401690
Spectroscopic performances of the GERDA cryogenic charge sensitive amplifier based on JFET-CMOS ASIC, coupled to germanium detectors	2009		10.1109/NSSMIC.2009.5401678
Ion spectroscopy : a diamond characterization tool	2008-07	DIAMOND AND RELATED MATERIALS	10.1016/j.diamond.2008.03.036
A JFET-CMOS fast preamplifier for segmented germanium detectors	2008-02-01	IEEE TRANSACTIONS ON NUCLEAR SCIENCE	10.1109/TNS.2007.914022
A cryogenic low-noise JFET-CMOS preamplifier for the HPGe detectors of GERDA	2008		10.1109/NSSMIC.2008.4774881
Test of a fully integrated CMOS preamplifier for HPGe detectors	2008		10.1109/NSSMIC.2008.4774901
Time to digital converter implementation on a configurable digital processor for ? scintillation detector events	2008		
A fast VLSI preamplifier for segmented HPGe gamma-ray detectors	2007		10.1109/NSSMIC.2006.356173
Digital adaptive timing and energy measurement of BaF2 and LaBr3 scintillator events	2007		10.1109/NSSMIC.2007.4436370
Investigation of the self activity and high energy γ -rays response of a 1" x 1" and 3" x 3" LaBr3:Ce scintillators	2007		10.1109/NSSMIC.2007.4437258
Low noise integrated CMOS front-end electronics for gamma rays spectroscopy	2007		10.1109/NSSMIC.2007.4436347
Optimum synthesis of FIR filters with arbitrary time and frequency constraints for energy and time	2007		10.1109/NSSMIC.2007.4436375
Towards a computer-aided diagnosis by means of phonocardiogram signals	2007		10.1109/ISIE.2007.4375048
Digitized Preamplifiers: A Circuit Structure for Sliding-Scale Optimization of the ADC Range	2006-02	IEEE TRANSACTIONS ON NUCLEAR SCIENCE	10.1109/TNS.2006.869822
Recent results of HADES and future upgrading of the spectrometer	2006		
Experimental comparison of state-of-the-art methods for digital optimum filter synthesis with arbitrary constraints and noise	2005-08	IEEE TRANSACTIONS ON NUCLEAR SCIENCE	10.1109/TNS.2005.852649
A Method for the Optimization of Front-End Electronics for Ionizing Spectrometers	2005		

Titolo del prodotto	Data di pubblicazione del prodotto	Rivista: denominazione	Identificativo DOI
A method for the optimization of front-end electronics for ionizing radiation spectrometers	2005	IEEE Nuclear Science Symposium Conference Record	10.1109/NSSMIC.2005.1596414
Digital penalized LMS method for filter synthesis with arbitrary constraints and noise	2004-05-01	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT	10.1016/j.nima.2003.12.032
Active control of the baseline of digitized preamplifiers with sliding-scale correction	2004	IEEE Nuclear Science Symposium Conference Record	10.1109/NSSMIC.2004.1462498
Time-domain Simulation of electronic noises	2004	IEEE TRANSACTIONS ON NUCLEAR SCIENCE	10.1109/TNS.2004.832564
Adaptive digital spectroscopy in programmable logic	2000	IEEE TRANSACTIONS ON NUCLEAR SCIENCE	10.1109/23.901184

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