

Marco Grassi – Activity Resume: 2001-2021

Personal Info

- Born in Pavia (Italy), _____ 1976
- _____ San Lorenzo al Mare (IM) - Italy
- Telephone: _____
- e-mail: marco.grassi@unipv.it
- Web: <http://sms.unipv.it/%7emarcog>
- LNKD: <http://www.grassimarco.com>
- Scholar: <http://www.grassimarco.it>

Affiliations (current)

- Senior Assistant Professor at University of Pavia since June 2021
- Co-CTO at VoltaPlant (<https://www.voltaplant.com>) since June 2021

Affiliations (past)

- Senior Research Associate at University of Pavia (2017-2021)
- Contract Professor at University of Pavia (2017-2021)
- Research Associate at University of Pavia (2007-2017)
- Associate to Italian Institute of Nuclear Physics since 2011
- Research Consultant at Sparkling IC, Tustin–CA, USA (2012-2016)
- Post-Doc Research Fellow at University of Pavia (2006-2007)
- Ph.D. Student at University of Pavia (2002-2006)
- Intern at High-Speed Data Converters Group, Texas Instruments, Dallas, TX, USA (2001)

Titles

- Enabled as Associate Professor in Measurements since Nov 2018
 - Enabled as Associate Professor in Electronics since Apr 2017
 - Audio Engineering Society Microphones and Applications Committee Board Member since 2017
 - AES Full Member since 2017, Member since 2011
 - IEEE Member since 2007, Student Member (2004-2007)
 - Italian Electrical Measurements Society Member since 2007
 - Technical Committee member of ICECS, PRIME, NGCAS, and IEEE Sensors conferences since 2011
 - Ph.D. degree in Electronics, Computer Science, and Electrical Engineering at University of Pavia, Italy, 14th June 2006.
Ph.D. thesis title: *“Wide dynamic range CMOS interface circuits for resistive gas sensors”*
 - Enabled as Engineering Professional since January 2003
 - M.Sc. degree in Electrical Engineering (Electronics), University of Pavia, Italy, Final Mark: 110/110, 19 July 2002
M.Sc. thesis title (translated): *“Solutions in A/D data converters design for high speed and resolution applications”*
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Publications

163 papers

- Journal Papers: 31
- Book Chapters: 21
- Conference Proceedings: 111

Patents

- International patents: 7

Teaching

- Teacher of Mechanical and Thermal Measurements since 2021
- Co-Teacher of Electronics for Industrial Measurements since 2021
- Teaching assistant in Electrical Measurements, University of Pavia, Italy, since 2012
- Teaching assistant in Mechanical and Thermal Measurements, University of Pavia, Italy (2010-2020)

Activities:

- Since March 2021, collaboration in the design of an asynchronous SAR ADC for low noise spectroscopy space application
 - Since January 2021 research and development activities as Co-CTO and partner of an academic spin-off company named VoltaPlant S.r.L. whose aim is harvesting green energy from plants
 - From January 2021 to February 2021 layout and validation of a 16x16 Silicon Drift detector front-to-back-end ASIC in collaboration with Politecnico di Milano
 - In January 2021 collaboration in the preliminary study of a new breath analysis technique to detect viral compounds in cooperation with University of Milano Bicocca and Policlinico di Monza
 - Since January 2021 cooperation in the study and development of a very low power audio SAR A/D converter for activity and voice detection with TDK corporation, Milano and Copenhagen.
 - In November 2020 collaboration, as an external consultant with VoltaPlant company, in the optimization of a DC-DC power converter PCB to harvest energy from plants.
 - From November 2020 to December 2020, design of a 16x16 Silicon Drift detector front-to-back-end ASIC in collaboration with Politecnico di Milano
 - From June 2020 to October 2020 full design of a 4-channel X and gamma ray detection ASIC for spectroscopy in space
 - In May 2020, characterization of a second-order incremental ADC for high resolution spectroscopy in space
 - In May 2020 short follow up of a collaboration with University of Genova in the development of interface circuits for gas sensors
 - From March 2020 to April 2020 cooperation (mostly remotely) in the measurements campaign on a 16x8 Silicon Drift detector front-to-back-end ASIC in collaboration with INAF Roma and Bologna
 - From February 2020 to April 2020 supervision of two Master Thesis works within Sigma-Delta and Incremental A/D design (discrete and continuous time)
 - In February 2020, further optimization in the design of a 32-channel front-to-back end for soft X-rays space spectroscopy n cubesats
 - From January 2020 to March 2020 cooperation in the
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measurements campaign on an ultrasonic cleaner in cooperation with Soltec, Milano

- From January 2020 to February 2020 validation of design and layout of a single channel for dual detection of X and Gamma ray detection circuit in collaboration with Politecnico di Milano
 - In January 2020, definition of the future activities within eXTP consortium in collaboration with INAF Roma and Bologna, Politecnico di Milano, OHB, and Chinese Space Agency
 - During 2019, definition of the architecture and its detailed design to be used for X and Gamma ray detection in spectroscopy space applications with particular focus on A/D conversion and logic
 - From July 2019 to November 2019 design of a full-custom, re-configurable second order incremental A/D converter to be employed in the future design of an ASIC channel for X and Gamma ray detectors read-out.
 - In June 2019, brief collaboration with TDK Copenhagen regarding the laboratory characterization of a second order low end Sigma Delta Modulator including a design improvement suggestion report.
 - In June 2019, brief collaboration with academic spin-off VoltaPlant within the project RisVolta, aimed to harvest energy from plants exploiting very low input voltage DC DC converters.
 - From March 2019 to June 2019 definition of the measurement setup for a 16x8 Silicon Drift detector ASIC characterization in cooperation with INAF Roma and Bologna, followed by the participation on place to part of measurement campaign.
 - From January 2019 to February 2019, first optimization of the design of a 32-channel linear array front end for Silicon Drift detector.
 - From January 2019 to February 2019, laboratory characterization of a 28nm CMOS 4th order zoom A/D converter within INFN Scaltech project in collaboration with University of Milano Bicocca
 - From January 2019 to February 2019 Co-supervision of the measurement campaign on a 500 W ultrasonic power cleaner, designed in collaboration with Soltec, Milano.
 - From August 2018 to October 2018, collaboration in the design fine tuning for large scale production of the ASIC VEGA, a 32-channel read-out for X ray detectors within LOFT project.
 - From June 2018 to August 2018, complete design of a MESH A/D converter for automotive applications in collaboration with AMS
 - From April 2018 to June 2018, setup definition and preliminary characterization of a 28nm CMOS 4th order zoom A/D converter within INFN Scaltech project in collaboration with University of Milano Bicocca
 - From April 2018 to June 2018 supervision of the measurement campaign on a 200 W ultrasonic power cleaner, designed in collaboration with Soltec, Milano.
 - From March 2018 to June 2018, design of the first version of the ASIC LYRA, a 32-channel array read-out ASIC for X ray detection to be employed in space spectroscopy on cubesats. The added value of this ASIC with respect to its ancestor VEGA is the presence of a current link between the front end and the back-end which lie in
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different dies to prevent switching noise effects.

- From January 2018 to March 2018, finalization of the design of a 16x8 Silicon Drift detector array front-to-back end for soft X ray detection.
 - From May 2017 to October 2017, design of a 28nm CMOS 4th order zoom A/D converter within INFN Scaltech project in collaboration with University of Milano Bicocca
 - From June 2017 to August 2017, design collaboration with Photeon, Pavia at the design of a LNA and a SAR logic for a multi-modal GPS circuit
 - From April 2017 to December 2017, feasibility study of a 16x8 read-out circuit for Silicon Drift detectors in collaboration with INAF Milano and Bologna and Politecnico di Milano.
 - From March 2017 to June 2017, characterization of an integrated circuit including several passive components to be tested before and after radiation exposition to compare their mismatch values.
 - From January 2017 to September 2017, cooperation in the design of a 200W ultrasonic cleaner in collaboration with Soltec Milano.
 - From January 2017 to March 2017 collaboration in the ensemble of a 4x4 Silicon Drift detector system for X ray detection (SIRIO) in collaboration with Politecnico di Milano.
 - From April 2017 to June 2017 optimization of an integrated temperature control system for humidity sensors in 0.35 μ m technology. The model study of the prototype has been carried out in a research project with Texas Instruments, Milano, till 2016.
 - Since October 2016: development of a second test-chip for ultra-scaled technologies study, within Scaltech28 INFN experiment. The proposed integrated circuit is actually a 28-nm second order incremental A/D converter with a thermal noise related resolution of 15 bits. The A/D converter will be characterized before and after exposition to a high energy X-ray dose. This should validate, exploiting the observation of the behaviour of a complex system, the previous experiment results in which standalone devices and a simple relaxation oscillator have been studied to model radiation damage. If successful, Scaltech28 experiment will also deliver Spice-like simulation models for radiation damage.
 - Since June 2016, within a research and development activity with Soltec technologies, Milano, design and characterization of control and powertrain circuits for ultrasound piezoelectric devices for cleaning. Three versions of power drivers are being finalized: 200W, 500W and 1.5kW. The architecture of the powertrain is made up by a PFC-Boost dealing with mains AC supply followed by a closed loop buck converter and a MOS bridge which drives the transducer thru a power transformer and a resonant inductor. Sensing the current on the transducer is possible to tune its excitation frequency by means of a micro-controller to keep it working within its natural resonance zone.
 - Since March 2016 within a research and development activity in cooperation with Semitrex corporation, CA, USA, Architecture definition for a worldwide (90V-250V AC) compliant capacitive power converter for Internet of Things (2.5W) with an overall efficiency of 95% including the cascade of all capacitive step-down stages. The architecture study also includes all the algorithms for
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the on-line powertrain re-configuration and calibration for worst case 0.5% output voltage accuracy. The architecture definition and basic blocks specifications are set by exploiting the state of the art in capacitive power conversion from the previous research activity cofounded by Semitrex Corporation.

- Cooperation within extended PixFel and RedSoX INFN experiments since May 2015. These activities objective are the development and characterization of X ray detector arrays.
 - Since March 2015 participation in the design and characterization of a relaxation oscillator for very low scaled technologies (28nm) to study the matching factor of MIM capacitors before and after radiation damage within Scaltech28 INFN experiment.
 - From May 2016 to September 2016 characterization of three prototypes developed in a research project with Semitrex Corporation which aimed to the study of an Universal AC/DC converter, able to convert electrical power with an efficiency of 99%/stage exploiting capacitive conversion. The characterization covered USA, EUR, and worldwide standards power efficiency voltage sweep, output power sweep from 0W to 10W, temperature measurements up to 80°C and soft start evaluation. 99%/stage efficiency spec has been met in all conditions.
 - Research study about feasibility of a re-configurable oversampled Sigma-Delta modulator for pressure sensors within a related Bosch corporation project in April 2016.
 - From September 2015 to January 2016, preliminary research study of three different versions of a very high efficiency (99%/stage) capacitive 5W power converter in cooperation with Semitrex corporation, Laguna Beach, California. The three integrated circuits have been designed in SOI XFAB technology for universal AC-DC power conversion all over the globe. An ad-hoc super-junction technology variant has been employed together with XFAB for 400V DC operation. Precious feedback has been delivered from the preliminary design results, which actually represent the state of the art in capacitive power converters. A first prototype has been developed for US electricity, a second prototype for EU standards and a third prototype for worldwide specifications (patented)
 - Design supervision of an integrated closed-loop PI temperature regulator for humidity sensors diagnostics and re-calibration: a research project in cooperation with Texas Instruments, Milano, from January 2015 to December 2016.
 - Top level verification (schematic and post-layout simulation) of an AC 100V to 250V input, DC 5V output, 25W, power converter based on the cascade of the parallel of a capacitive front-end and a buck converter followed by a closed loop flyback converter in cooperation with Semitrex, California from November 2014 to August 2015. This preliminary activity has been of great importance for the definition of the state of the art of worldwide AC/DC capacitive adapters (patented).
 - Research project in cooperation with Pirelli Tyre Milano and University of Milano Bicocca for the development of an AC-coupled, high dynamic range, low noise, 10-bit output front-end circuit for MEMS accelerometer (Mar 2015 – Jun 2015).
 - Diagnostics and calibration preliminary study of a high-performance
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capacitive humidity sensor in a research project funded by Texas Instruments, Milano, Oct 2013 – May 2015.

- Research activity about the complete study and development of a NFC wireless chain for sensors supply and read-out, May 2014 – Apr 2015.
 - Development of a demo breadboard with a versatile flyback DC-DC converter for future research activities, Mar 2015 – Apr 2015.
 - Top level ASIC simulation including a PIN diode driver (28V, 30mA) within a Macom Ireland funded research project, Jan 2015 – Apr 2015.
 - Research activity funded by Macom Ireland about the design of a PIN diode driver (28V, 30mA) based on a level shifter topology for 5V Vgs P-device H bridge, Dec 2014 – Jan 2015.
 - Characterization of an integrated 12-bit Successive Approximation A/D converter for space application X-Ray Silicon Drift Detectors (INFN) in 0.35 μ m CMOS technology, Oct 2014 – Jan 2015
 - In cooperation with University of Milano Bicocca: feasibility behavioural study of a second-order modulator back-end for digital oxymeters, October 2014
 - Research study about the complete design (from concept to post-layout simulations) of a high PSRR linear voltage supply regulator for MEMS microphone read-out circuit in 0.18 μ m CMOS technology in cooperation with Epcos-TDK, Copenhagen, DK, Jan 2014 – Aug 2014.
 - Design supervision (INFN) of an integrated 12-bit Successive Approximation A/D converter for space application X-Ray Silicon Drift Detectors in 0.35 μ m CMOS technology, Nov 2013 – May 2014
 - Design and characterization of a high-end MEMS microphone read-out application integrated fourth order sigma-delta modulator in 0.18 μ m CMOS technology in cooperation with Epcos-TDK, Copenhagen, DK, Mar 2013 – May 2014
 - Design and characterization of a low-end MEMS microphone read-out application integrated second order sigma-delta modulator in 0.18 μ m CMOS technology in cooperation with Epcos-TDK, Copenhagen, DK, Aug 2012 – Feb 2013
 - On-field long-period characterization of a developed RFID multisensory (light, humidity, temperature) integrated 0.18 μ m read-out circuit together with real food samples in different storage conditions in cooperation with University of Perugia, Italy. The aim of the research experiment has been to correlate measured physical and chemical characteristics of food samples over time with logged read-out sensors data (FIRB07), Dec 2011 - Apr 2012.
 - Design supervision and characterization of a Heterogeneous Metal Oxide gas sensor grid 0.35 μ m CMOS integrated wide-dynamic range read-out circuit with digital temperature gradient control within PRIN09 research funded project, May 2011 – Apr 2013.
 - Design and characterization assistance of a photovoltaic integrated harvesting circuit with Power Electronics Laboratory of University of Pavia, Italy, Oct 2010 – Jul 2011.
 - Design and characterization assistance of a high efficiency inductive integrated DC-DC converter for mechanical-magnetic energy
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harvesting applications in High Voltage 0.35 μ m CMOS technology. The project has been carried out with Power Electronics Laboratory of University of Pavia, May 2010–Apr 2011.

- Design and characterization contribution of an angular MEMS accelerometer integrated CMOS read-out circuit: a research project in cooperation with ST Microelectronics, Cornaredo, Italy, Sep 2009 – Nov 2010.
 - Design supervision and characterization of a high precision, high line and load regulation, very low temperature dependence 1.25V, 1.80V voltage regulator circuit: a research project in cooperation with ST Microelectronics, Catania, Feb 2009-Sep 2012.
 - Design supervision and electrical characterization of a developed RFID multisensory (light, humidity, temperature) integrated CMOS 0.18 μ m read-out circuit for food storage data logging within research project FIRB07, Mar 2008 – May 2011.
 - Design supervision of an integrated closed loop controlled charge pump circuit for high voltage bias (up to 15V) of a MEMS microphone in cooperation with ST Microelectronics, Cornaredo, Italy, Feb 2008 – Dec 2008.
 - Supervision of a research project about the study and development of a front-end for MEMS microphone read-out including MIC pre-amplifier and fourth order noise shaping single-bit stream-out sigma-delta modulator with feed-forward signal path, Oct 2007 – Sep 2008.
 - Design of a high-end (16-bit SNR, 10-bit linearity) 0.35 μ m CMOS integrated capacitive displacement sensor read-out circuit within a research project in cooperation with Sensirion, Zurich, CH, May 2007 – September 2008.
 - Design of a low-end 0.35 μ m CMOS integrated capacitive pressure sensor read-out circuit within a research project in cooperation with Sensirion, Zurich, CH, April 2007 – October 2007.
 - Design and characterization of different versions of a wearable wireless people fall-detection accelerometer device (hardware and algorithms) within Netcarity European project coordinated by University of Tübingen, DE. The wearable device fall detection data is merged together with 3D vision and room acoustic data to maximise efficiency and reliability of the complete fall detection system, developed in cooperation with IMM-CNR, Lecce, Italy (3D vision), FBK Trento, Italy (microphone), and IBM, USA (audio analysis). Real actors on-field fall detection data acquisition campaign has been carried out together with MR&D Institute, Gallarate, Italy. The project concerned Ambient Assisted Living context with particular focus on older people care and safety, Feb 2007 – Dec 2011.
 - STARX32: A Joint research project about a Large Area (32x32 pixels) X-ray detector front-end circuit for space applications in cooperation with Politecnico di Milano, Italy, Thales-Alenia Spazio, Milano, Italy and European Space Agency, Noordwijk, NL, Dec 2006 – Dec 2010.
 - Participation in a research project about the design and characterization of a Metal Oxide gas-sensor array digital temperature CMOS 0.35 μ m integrated control circuit (PRIN05, part B), Oct 2006 – Mar 2008.
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- Design of a multiplexed read-out solution for wide-dynamic-range resistive gas-sensors within GOSPEL European consortium, Jul 2006 – Sep 2006.
 - Complete Design and characterization of a wide-dynamic range resistance-to-time converter CMOS 0.35 μ m integrated circuit for gas-sensors read-out. The innovative solution exploits constant voltage sensor bias and high linearity resistance controlled oscillator, within PRIN05, part A research project, May 2005 – Mar 2006.
 - Design and characterization of a wide-dynamic range multi-scale resistive gas-sensor read-out CMOS 0.35 μ m integrated circuit. Inter-scale offset and error mismatch corrections allow more than 160dB overall dynamic range measure. Activity carried out within PRIN03 funded research project, Nov 2003 – Mar 2005.
 - Design and characterization participation in a fourth order, four paths sigma delta modulator with a resolution of 14 bits and 320MHz sample rate: a research project funded by Siemens, Milano, Italy, Jan 2002 – Oct 2003.
 - Testing of a 50MS/s 10-Bit Pipeline A/D Converter
 - Design contribution in a 16-bit, 50MHz sample rate pipeline A/D converter at Texas Instruments headquarter, Dallas, USA, Dec 2000 – Dec 2001 (Jan 2001 – Apr 2001 on site).

Languages

- English: good professional proficiency, written and spoken

Software

- Cadence, Matlab, Simulink, Verilog-A, Verilog, Labview, C, Basic, Adobe Creative Cloud, Microsoft Office 365

Integrative Courses

- Product Development and Business Mentoring with XEUROPE program in 2021
- Course of Innovation and Industrial Economics, University of Pavia, September 2004
- School of Electrical and Electronic Measurements, University of Trento, August 2004
- English Course at Lang. C. Lab., Ft. Lauderdale, FL, August 1999



Journal Publications (31)

- [J.01] M. Grassi, P. Malcovati, and A. Baschiroto, "A High-Precision Wide-Range Front-End for Resistive Gas Sensors Arrays", *Sensors and Actuators B*, vol. 111-112, no. 1, pp. 281-285, November, 2005, DOI: 10.1016/J.SNB.2005.03.103.
- [J.02] M. Grassi, P. Malcovati, and A. Baschiroto, "A 160-dB Equivalent Dynamic Range Auto-Scaling Interface for Resistive Gas Sensors Arrays", *IEEE Journal of Solid-State Circuits*, vol. 42, no. 3, pp. 518-528, March, 2007, DOI: 10.1109/JSSC.2006.891724.
- [J.03] M. Grassi, P. Malcovati, and A. Baschiroto, "A 141-dB Dynamic Range CMOS Gas-Sensor Interface Circuit without Calibration with 16-Bit Digital Output Word", *IEEE Journal of Solid-State Circuits*, vol. 42, no. 7, pp. 1543-1554, July, 2007, DOI: 10.1109/JSSC.2007.899087.
- [J.04] A. Baschiroto, S. Capone, A. D'Amico, C. Di Natale, V. Ferragina, G. Ferri, L. Francioso, M. Grassi, N. Guerrini, P. Malcovati, E. Martinelli, and P. Siciliano, "A Portable Integrated Wide-Range Gas Sensing System with Smart A/D Front-End", *Sensors and Actuators B*, vol. 130, no. 1, pp. 164-174, March, 2008, DOI: 10.1016/J.SNB.2007.07.144.
- [J.05] M. Grassi, P. Malcovati, L. Francioso, P. Siciliano, and A. Baschiroto, "Integrated Interface Circuit with Multiplexed Input and Digital Output for a 5x5 SnO₂ Thick Film Gas-Sensor Matrix", *Sensors and Actuators B*, vol. 132, no. 2, pp. 568-575, June, 2008, DOI: 10.1016/J.SNB.2007.11.045.
- [J.06] A. Lombardi, M. Grassi, P. Malcovati, S. Capone, L. Francioso, P. Siciliano, and A. Baschiroto, "A CMOS Integrated Interface Circuit for Metal-Oxide Gas Sensors", *Sensors and Actuators B*, vol. 142, no. 1, pp. 82-89, October, 2009, DOI: 10.1016/J.SNB.2009.07.030.
- [J.07] L. Picolli, M. Grassi, A. Fornasari, and P. Malcovati, "A 1.0-mW, 71-dB SNDR, Fourth-Order Sigma-Delta Interface Circuit for MEMS Microphones", *Analog Integrated Circuits and Signal Processing*, vol. 66, no. 2, pp. 223-233, February, 2011, DOI: 10.1007/S10470-010-9516-2.
- [J.08] G. Zampa, R. Campana, M. Feroci, A. Vacchi, V. Bonvicini, E. Del Monte, Y. Evangelista, F. Fuschino, C. Labanti, M. Marisaldi, F. Muleri, L. Pacciani, M. Rapisarda, A. Rashevsky, A. Rubini, P. Soffitta, N. Zampa, G. Baldazzi, E. Costa, I. Donnarumma, M. Grassi, F. Lazzarotto, P. Malcovati, M. Mastropietro, E. Morelli, and L. Picolli, "Room-Temperature Spectroscopic Performance of a Very-Large Area Silicon Drift Detector", *Nuclear Instruments and Methods in Physics Research — Section A*, vol. 633, no. 1, pp. 15-21, March, 2011, DOI: 10.1016/J.NIMA.2010.12.129.
- [J.09] R. Campana, G. Zampa, M. Feroci, A. Vacchi, V. Bonvicini, E. Del Monte, Y. Evangelista, F. Fuschino, C. Labanti, M. Marisaldi, F. Muleri, L. Pacciani, M. Rapisarda, A. Rashevsky, A. Rubini, P. Soffitta, N. Zampa, G. Baldazzi, E. Costa, I. Donnarumma, M. Grassi, F. Lazzarotto, P. Malcovati, M. Mastropietro, E. Morelli, and L. Picolli, "Imaging Performance of a Large-Area Silicon Drift Detector for X-Ray Astronomy", *Nuclear Instruments and Methods in Physics Research — Section A*, vol. 633, no. 1, pp. 22-30, March, 2011, DOI: 10.1016/J.NIMA.2010.12.237.
- [J.10] M. Feroci, L. Stella, M. van der Klis, T. Courvoisier, M. Hernanz, R. Hudec, A. Santangelo, D. Walton, A. Zdziarski, D. Barret, T. Belloni, J. Braga, S. Brandt, C. Budtz-Jørgensen, S. Campana, J. W. den Herder, J. Huvelin, G. L. Israel, M. Pohl, P. S. Ray, A. Vacchi, S. Zane, A. Argan, P. Attinà, G. Bertuccio, E. Bozzo, R. Campana, D. Chakrabarty, E. Costa, A. De Rosa, E. Del Monte, S. Di Cosimo, I. Donnarumma, Y. Evangelista, D. Haas, P. Jonker, S. Korpela, C. Labanti, P. Malcovati, R. Mignani, F. Muleri, M. Rapisarda, A. Rashevsky, N. Rea, A. Rubini, C. Tenzer, C. A. Wilson-Hodge, B. Winter, K. Wood, G. Zampa, N. Zampa, M. A. Abramowicz, M. A. Alpar, D. Altamirano, J. M. Alvarez, L. Amati, C. Amoros, L. A. Antonelli, R. Artigue, P. Azzarello, M. Bachetti, G. Baldazzi, M. Barbera, C. Barbieri, S. Basa, A. Baykal, R. Belmont, L. Boirin, V. Bonvicini, L. Burderi, M. Bursa, C. Cabanac, E. Cackett, G. A. Caliendo, P. Casella, S. Chaty, J. Chenevez, M. J. Coe, A. Collura, A. Corongiu, S. Covino, G. Cusumano, F. D'Amico, S. Dall'Osso, D. De Martino, G. De Paris, G. Di Persio, T. Di Salvo, C. Done, M. Dovciak, A. Drago, U. Ertan, S. Fabiani, M. Falanga, R. Fender, P. Ferrando, D. Della Monica Ferreira, G. W. Fraser, F. Frontera, F. Fuschino, J. L. Galvez-Sanchez, P. Gandhi, P. Giommi, O. Godet, E. Göğüs, A. Goldwurm, D. Götz, M. Grassi, P. Guttridge, P. Hakala, G. Henri, W. Hermsen, J. Horak, A. Hornstrup, J. J. M. in't Zand, J. Isern, E. Kalemci, G. Kanbach, V. Karas, D. Kataria, T. Kennedy, D. Klochkov, W. Kluzniak, K. Kokkotas, I. Kreykenbohm, J. Krolik, L. M. Kuiper, I. Kuvvetli, N. Kylafis, J. M.

Lattimer, F. Lazzarotto, D. Leahy, F. Lebrun, D. Lin, N. Lund, T. J. Maccarone, J. Malzac, M. Marisaldi, A. Martindale, M. Mastropietro, J. McClintock, I. M. McHardy, M. Mendez, S. Mereghetti, M. C. Miller, T. Mineo, E. Morelli, S. Morsink, C. Motch, S. Motta, T. Muñoz-Darias, G. Naletto, V. Neustroev, J. Nevalainen, J. F. Olive, M. Orio, M. Orlandini, P. Orleanski, F. Ozel, L. Pacciani, S. Paltani, I. Papadakis, A. Papitto, A. Patruno, A. Pellizzoni, V. Petracek, J. Petri, P. O. Petrucci, B. Philips, L. Picolli, A. Possenti, D. Psaltis, D. Rambaud, P. Reig, R. Remillard, J. Rodriguez, P. Romano, M. Romanova, T. Schanz, C. Schmid, A. Segreto, A. Shearer, A. Smith, P. J. Smith, P. Soffitta, N. Stergioulas, M. Stolarski, Z. Stuchlik, A. Tiengo, D. F. Torres, G. Török, R. Turolla, P. Uttley, S. Vaughan, S. Vercellone, R. Waters, A. Watts, R. Wawrzaszek, N. Webb, J. Wilms, L. Zampieri, A. Zezas, and J. Ziolkowski, "The Large Observatory for X-Ray Timing (LOFT)", *Experimental Astronomy*, vol. 34, no. 2, pp. 415-444, October, 2012, DOI: 10.1007/S10686-011-9237-2.

[J.11] P. Malcovati, M. Grassi, and A. Baschirotto, "Towards High-Dynamic Range CMOS Integrated Interface Circuits for Gas Sensors", *Sensors and Actuators B*, vol. 179, no. 1, pp. 301-312, March, 2013, DOI: 10.1016/J.SNB.2012.10.019.

[J.12] M. Ahangarianabhari, G. Bertuccio, D. Macera, P. Malcovati, M. Grassi, A. Rashevsky, I. Rashevskaya, A. Vacchi, G. Zampa, N. Zampa, F. Fuschino, Y. Evangelista, R. Campana, C. Labanti, and M. Feroci, "A Low-Power CMOS ASIC for X-ray Silicon Drift Detectors Low-Noise Pulse Processing", *Journal of Instrumentation*, vol. 9, no. 3, pp. C03036, March, 2014, DOI: 10.1088/1748-0221/9/03/C03036.

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