

Andreino Simonelli, Ph.D.



personal data :

Born in Italy, Pietrasanta (LU) 23

January 1983

address :

*Via Serravalle 108 Luni, La Spezia,
Italy*

email :

phone :

ABOUT ME

As post-doc researcher, my interests are in applied optics, data analysis and digital signal processing, photo sensors characterization. I am enthusiast about new technologies and applied science. My strengths are the capacity to have a general overview of technical and theoretical problems in the context of applied physics and a quick learning in new scientific and technological contexts.

WORK EXPERIENCE

*2021/12/1-
actual*

Assegnista di ricerca senior, INFN-NAPOLI

*Istituto Nazionale
di Fisica Nucleare
INFN - Napoli*

Research topic: KM₃NeT experiment, detection units production coordination and photosensors testing

Reference: Dr. Pasquale MIGLIOZZI · pmiglioz@infn.it

*2018/7/9-
2021/7/8*

Assegnista di ricerca, INFN-PISA

*Istituto Nazionale
di Fisica Nucleare
INFN - Pisa*

Research topic: Data acquisition and processing with the use of Kalman filters and their comparison with geodetic and geophysical signals in gravitational experiments. Rotational data data analysis for seismological and geodetical applications.

Reference: Dr. Angela DI VIRGILIO · angela.divirgilio@pi.infn.it

*2016/2/1-
2018/6/31*

Wissenschaftlicher Mitarbeiter, LMU-MÜNCHEN

*Ludwig
Maximilians
Universität,
München, Earth
Science department*

PhD project in the context of the ROMY-ERC project

<https://www.geophysik.uni-muenchen.de/ROMY/> , the aim of this project is to realize a four component active Ring laser gyroscope dedicated to high sensitivity applications in earth sciences and especially in seismology. In this PhD project we want to show the power of rotational ground motion observations from global to local scale in seismology.

Reference: Prof. Heiner IGEL · igel@geophysik.uni-muenchen.de

*2015/2/1 to
2016/1/31*

Assegnista di Ricerca, DEPT. OF PHYSICS— Pisa

*Dept. of Physics
"Enrico Fermi",
University of Pisa*

Twelve months research grant (Assegno di ricerca) at the Department of Physics "E. Fermi" on the theme "Giroscopi laser per la sismologia rotazionale"

Reference: Prof. Nicoló BEVERINI · beverini@df.unipi.it

*2014/9 to
2015/1*

Research fellow, DEPT. OF PHYSICS— Pisa

Dept. of Physics
"Enrico Fermi",
University of Pisa

Six months scholarship at the Department of Physics "E. Fermi" on the theme
"Application of ring laser gyroscopes to seismological measurements"
Reference: Prof. Nicol  BEVERINI · beverini@df.unipi.it

2012-2013 Research fellow, DEPT. OF PHYSICS— Pisa

Dept. of Physics
"Enrico Fermi",
University of Pisa

Annual scholarship at the Department of Physics "E. Fermi" on the theme "Role of
cavitation and shock waves in the production of nanoparticles of various materials. Terms
of optimization. Propagation of shock waves in non-homogeneous materials. Applications
to geophysics"
Reference: Prof. Francesco GIAMMANCO · giamma@df.unipi.it

2011-2012 Research fellow, DEPT. OF PHYSICS — Pisa

Dept. of Physics
"Enrico Fermi",
University of Pisa

Annual scholarship on "Development of theoretical models of fluid dynamics in
turbulent regimes and not, for applications in plasmas and flames"
Reference: Prof. Francesco GIAMMANCO · giamma@df.unipi.it

WORK EXPERIENCE ABROAD

2012 Mar-
Aug Physicist, TRIALPHA ENERGY — California USA

TriAlpha Energy
Inc. Irvine CA
United States

TriAlpha Energy is a spinoff corporate of UCI based in Foothill Ranch CA performing
research on magnetic confinement thermonuclear fusion, my role there was to manage
and maintain the optical plasma diagnostics during science runs of an experimental
reactor.

Reference: Prof. Francesco GIAMMANCO · giamma@df.unipi.it

EDUCATION

2018 LMU Ludwig maximilians universit t Muenchen

Ph.D.

Magna Cum laude in Geophysics

Thesis: *Earthquake-induced rotational ground motions observed by optical rotational sensors*

Advisors: Prof. Heiner IGEL & Dr. Isidoro FERRANTE

2014 University of Pisa

Master of Science

Cum laude in Applied and exploration Geophysics

Thesis: *The ring laser gyroscope as a rotational sensor: simulations and experimental activity*
Description: In this thesis, we develop simulations over seismological rotation sensing
through a ring laser gyro, in particular a model for the correction of back scattering
induced effects is taken in account. The experimental activity on the GP2 apparatus is
described in detail.

Advisors: Prof. Nicol  BEVERINI & Dr. Jacopo BELFI

2010 University of Pisa

Bachelor of Science

in Physics

Thesis: *Study of brachistocrone paths in a regatta race course through simulated numerical models
developed in Matlab*

Description: In this thesis, we develop a 2-D model of a race course that takes in account
also tide effects on navigation and solves the least-time problem on the above defined
lattice.

Advisor: Prof. Francesco FIDECARO

COMPUTER SKILLS

Basic

C

Intermediate

Python, L^AT_EX, Office, Linux, Microsoft Windows, Microsoft Office, Seiscomp, Seedlink,
Obspy

Advanced

MATLAB, Computer Hardware, Mac OSX

TECHNICAL SKILLS

<i>Optics and Photonics</i>	<p>Pulsed power laser sources: Nd: YAG nanosecond and picosecond lasers Continuous laser sources Helium Neon lasers, optical cavities, Ring laser gyroscopes based on Sagnac effect Optical bench components Pulsed laser ablation in water for nanoparticle production Optical spectroscopy Time of flight TOF spectroscopy Laser induced breakdown spectroscopy, HV electronics Photodetectors, photodiodes, photomultipliers Implementation and tuning of Laser Doppler systems for velocity measurements. Ultra fast intensified CCD cameras, Shadowgraphy Second harmonic dispersion interferometry</p>
<i>Electronics</i>	<p>Analog electronics High voltage generators Spectrum analyzers Oscilloscopes Lab benchmarking equipment Signal acquisition/generation Electroacoustics</p>
<i>Vacuum and Gas systems</i>	<p>High vacuum systems, Turbomolecular pumps Pressure gauges Gas distribution systems</p>
<i>Seismic equipment</i>	<p>Installation of seismic stations, seismic acquisition systems (Nanometrics) Seedlink protocol, Broadband seismometers, accelerometers, portable FOG-Gyroscopes.</p>

COMMISSIONS OF TRUST

Member of the scientific advisory board of the REDI consortium
<http://www.redi-research.eu/> for the National Institute of Nuclear Physics - INFN

SUPERVISED THESIS

- BSc thesis in physics: Veronica Colonna, 2017.
- MSc thesis in Applied Geophysics: Paolo Manganello, 2018.
- MSc thesis in Applied Geophysics: Federica Di Cori, 2019.
- MSc thesis in Applied Geophysics: Matteo Desiderio, 2020.

OTHER INFORMATION

<i>h-index</i>	10
<i>Number of citations</i>	200+
<i>Languages</i>	<p>ITALIAN · Mother tongue ENGLISH · Advanced (conversationally fluent) FRENCH · Basic GERMAN · Basic</p>
<i>Interests</i>	Sailing· Ski· Piano · Hi-fi · Cooking · Gym · Wine and oil producer

ARTICOLI SU RIVISTA

- [1] Andreino Simonelli, Heiner Igel, Joachim Wassermann, Jacopo Belfi, A Di Virgilio, N Beverini, Gaetano De Luca, and Gilberto Saccorotti. "Rotational motions from the 2016, Central Italy seismic sequence, as observed by an underground ring laser gyroscope". In: *Geophysical Journal International* 214.1 (2018), pp. 705–715.
- [2] Andreino Simonelli, Gaetano De Luca, Umberto Giacomelli, Giuseppe Terreni, and Angela Di Virgilio. "Observation by Means of An Underground Ring Laser Gyroscope of Love Waves Generated in the Mediterranean Sea: Source Direction and Comparison with Models". In: *Seismological Research Letters* 91.3 (2020), pp. 1730–1737.
- [3] Andreino Simonelli, Jacopo Belfi, Nicolò Beverini, Giorgio Carelli, Angela Di Virgilio, Enrico Maccioni, Gaetano De Luca, and Gilberto Saccorotti. "First deep underground observation of rotational signals from an earthquake at teleseismic distance using a large ring laser gyroscope". In: *Annals of Geophysics* 59 (Apr. 2016). DOI: [10.4401/ag-6970](https://doi.org/10.4401/ag-6970). URL: <https://doi.org/10.4401/ag-6970>.
- [4] Andreino Simonelli, Matteo Desiderio, Aladino Govoni, Gaetano De Luca, and Angela Di Virgilio. "Monitoring Local Earthquakes in Central Italy Using 4C Single Station Data". In: *Sensors* 21.13 (2021), p. 4297.
- [5] J. Belfi, N. Beverini, G. Carelli, A. Di Virgilio, U. Giacomelli, E. Maccioni, A. Simonelli, F. Stefani, and G. Terreni. "Analysis of 90 day operation of the GINGERINO gyroscope". In: *Appl. Opt.* 57.20 (July 2018), pp. 5844–5851. DOI: [10.1364/AO.57.005844](https://doi.org/10.1364/AO.57.005844). URL: <http://ao.osa.org/abstract.cfm?URI=ao-57-20-5844>.
- [6] Gabriele Cristoforetti, Marco Tiberi, Andrea Simonelli, Paolo Marsili, and Francesco Giammanco. "Toward the optimization of double-pulse LIBS underwater: effects of experimental parameters on the reproducibility and dynamics of laser-induced cavitation bubble". In: *Applied optics* 51.7 (2012), B30–B41.
- [7] M Muniz-Miranda, C Gellini, A Simonelli, M Tiberi, Francesco Giammanco, and E Giorgetti. "Characterization of copper nanoparticles obtained by laser ablation in liquids". In: *Applied Physics A* 110.4 (2013), pp. 829–833.
- [8] Marco Tiberi, Andreino Simonelli, G Cristoforetti, Paolo Marsili, Francesco Giammanco, and E Giorgetti. "Effect of picosecond laser induced cavitation bubbles generated on Au targets in a nanoparticle production set-up". In: *Applied Physics A* 110.4 (2013), pp. 857–861.
- [9] A Di Virgilio, J Belfi, F Bosi, R Santagata, N Beverini, G Carelli, E Maccioni, A Simonelli, A Ortolan, C Altucci, et al. "The GINGER Project and status of the ring-laser of LNGS". In: *PoS* 244 (2015), p. 070.
- [10] Jacopo Belfi, Nicolò Beverini, Filippo Bosi, Giorgio Carelli, Davide Cuccato, Gaetano De Luca, Angela Di Virgilio, André Gebauer, Enrico Maccioni, Antonello Ortolan, et al. "Deep underground rotation measurements: GINGERino ring laser gyroscope in Gran Sasso". In: *Review of Scientific Instruments* 88.3 (2017), p. 034502.
- [11] J Belfi, N Beverini, G Carelli, A Di Virgilio, U Giacomelli, E Maccioni, A Simonelli, F Stefani, and G Terreni. "Analysis of 90 day operation of the GINGERINO gyroscope". In: *Applied optics* 57.20 (2018), pp. 5844–5851.
- [12] Nicolò Beverini, A Basti, Filippo Bosi, G Carelli, Donatella Ciampini, A Di Virgilio, Isidoro Ferrante, Francesco Fuso, Umberto Giacomelli, Enrico Maccioni, et al. "Ring laser gyroscopes in the underground Gran Sasso Laboratories". In: *Quantum Electronics* 49.2 (2019), p. 195.
- [13] A Simonelli, H Igel, J Wassermann, J Belfi, A Di Virgilio, N Beverini, G De Luca, and G Saccorotti. "Back azimuth determination of regional earthquakes using collocated measurements of ground rotations and translations during the 2016 central italy seismic sequence". In: ().
- [14] Angela DV Di Virgilio. "Ginger". In: *International Journal of Modern Physics D* 26.05 (2017), p. 1741016.
- [15] Shihao Yuan, Andreino Simonelli, Chin-Jen Lin, Felix Bernauer, Stefanie Donner, Thomas Braun, Joachim Wassermann, and Heiner Igel. "Six degree-of-freedom broadband ground-motion observations with portable sensors: Validation, local earthquakes, and signal processing". In: *Bulletin of the Seismological Society of America* 110.3 (2020), pp. 953–969.

- [16] André Gebauer, Monika Tercjak, Karl Ulrich Schreiber, Heiner Igel, Jan Kodet, Urs Hugentobler, Joachim Wassermann, Felix Bernauer, Chin-Jen Lin, Stefanie Donner, and Andreino Simonelli. "Reconstruction of the instantaneous Earth rotation vector with sub-arcsecond resolution using a large scale ring laser array". In: *Physical Review Letters* 125.3 (2020), p. 033605.
- [17] Angela DV Di Virgilio, Andrea Basti, Nicolò Beverini, Filippo Bosi, Giorgio Carelli, Donatella Ciampini, Francesco Fuso, Umberto Giacomelli, Enrico Maccioni, Paolo Marsili, et al. "Underground Sagnac gyroscope with sub-prad/s rotation rate sensitivity: Toward general relativity tests on Earth". In: *Physical Review Research* 2.3 (2020), p. 032069.
- [18] Heiner Igel, K Ulrich Schreiber, André Gebauer, Felix Bernauer, Sven Egdorf, Andrea Simonelli, Chin-Jen Liny, Joachim Wassermann, Stefanie Donner, Céline Hadziioannou, et al. "ROMY: a multi-component ring laser for geodesy and geophysics". In: *Geophysical Journal International* (2020).
- [19] Angela D Di Virgilio, Carlo Altucci, Francesco Bajardi, Andrea Basti, Nicolò Beverini, Salvatore Capozziello, Giorgio Carelli, Donatella Ciampini, Francesco Fuso, Umberto Giacomelli, et al. "Sensitivity limit investigation of a Sagnac gyroscope through linear regression analysis". In: *The European Physical Journal C* 81.5 (2021), pp. 1–9.
- [20] Andrea Basti, Nicolò Beverini, Filippo Bosi, Giorgio Carelli, Donatella Ciampini, Angela DV Di Virgilio, Francesco Fuso, Umberto Giacomelli, Enrico Maccioni, Paolo Marsili, et al. "Effects of temperature variations in high-sensitivity Sagnac gyroscope". In: *The European Physical Journal Plus* 136.5 (2021), pp. 1–12.
- [21] Salvatore Capozziello, Carlo Altucci, Francesco Bajardi, Andrea Basti, Nicolò Beverini, Giorgio Carelli, Donatella Ciampini, Angela DV Di Virgilio, Francesco Fuso, Umberto Giacomelli, et al. "Constraining Theories of Gravity by GINGER experiment". In: *The European Physical Journal Plus* 136.4 (2021), pp. 1–21.

PROCEEDINGS

- [1] V Bystritskii, M Anderson, M Binderdauer, K Conroy, E Garate, H Gota, Y Mok, Y Song, G Strashnoy, W Wagoner, and A Simonelli. "Study of dense FRCs formation and their transport with multistage compression". In: *Plasma Science (ICOPS), 2013 Abstracts IEEE International Conference on*. IEEE. 2013, pp. 1–1.
- [2] J Belfi, A Di Virgilio, Nicolò Beverini, Giorgio Carelli, Enrico Maccioni, Andreino Simonelli, and Rosa Santagata. "Geometrical scale-factor stabilization of square cavity ring laser gyroscopes". In: *2015 Joint Conference of the IEEE International Frequency Control Symposium & the European Frequency and Time Forum*. IEEE. 2015, pp. 51–55.
- [3] Andreino Simonelli, Jacopo Belfi, Nicolò Beverini, Giorgio Carelli, A Di Virgilio, Enrico Maccioni, R Santagata, G De Luca, and Gilberto Saccorotti. "Measurements of Surface Waves Phase Velocity with a Large Ring Laser Gyroscope and a Seismometer". In: *Near Surface Geoscience 2015-21st European Meeting of Environmental and Engineering Geophysics*. Vol. 2015. 1. European Association of Geoscientists & Engineers. 2015, pp. 1–5.
- [4] Jacopo Belfi, Filippo Bosi, A Di Virgilio, Nicolò Beverini, Giorgio Carelli, U Giacomelli, Enrico Maccioni, Andreino Simonelli, A Beghi, D Cuccato, et al. "Very high sensitivity laser gyroscopes for general relativity tests in a ground laboratory". In: *2016 European Frequency and Time Forum (EFTF)*. IEEE. 2016, pp. 1–4.
- [5] A Ortolan, Jacopo Belfi, Filippo Bosi, A Di Virgilio, Nicolò Beverini, Giorgio Carelli, Enrico Maccioni, Rosa Santagata, Andreino Simonelli, A Beghi, et al. "The GINGER project and status of the GINGERino prototype at LNGS". In: *Journal of Physics: Conference Series*. Vol. 718. 7. IOP Publishing. 2016, p. 072003.
- [6] Alberto Donazzan, Giampiero Naletto, Maria G Pelizzo, Davide Cuccato, Alessandro Beghi, Antonello Ortolan, Jacopo Belfi, Filippo Bosi, Andreino Simonelli, Nicolò Beverini, et al. "A network of heterodyne laser interferometers for monitoring and control of large ring-lasers". In: *Interferometry XVIII*. Vol. 9960. International Society for Optics and Photonics. 2016, 99600G.
- [7] Alberto Donazzan, Giampiero Naletto, Maria Guglielmina Pelizzo, Davide Cuccato, Alessandro Beghi, Antonello Ortolan, Jacopo Belfi, Filippo Bosi, Angela Di Virgilio, Nicolò Beverini, et al. "External metrology system for the stabilization of large ring-lasers". In: *2016 IEEE Metrology for Aerospace (MetroAeroSpace)*. IEEE. 2016, pp. 266–270.

- [8] Andreino Simonelli, Jacopo Belfi, Nicolò Beverini, Angela Di Virgilio, Giorgio Carelli, Enrico Maccioni, Gaetano De Luca, and Gilberto Saccorotti. "The GINGERino ring laser gyroscope, seismological observations at one year from the first light". In: *EGU General Assembly Conference Abstracts*. 2016, EPSC2016-8930.
- [9] Angela DV Di Virgilio, Jacopo Belfi, Nicolò Beverini, Giorgio Carelli, Davide Cuccato, Umberto Giacomelli, Enrico Maccioni, Antonello Ortolan, Alberto Porzio, Andreino Simonelli, et al. "Recent results and perspectives of the ring-laser GINGERino". In: *EGU General Assembly Conference Abstracts*. 2017, p. 6557.
- [10] H Igel, KU Schreiber, A Gebauer, JM Wassermann, CJ Lin, F Bernauer, A Simonelli, and JPR Wells. "ROMY: A 4-component large ring laser for geophysics". In: *AGU Fall Meeting Abstracts*. Vol. 2016. 2016, S14C-01.
- [11] André Gebauer, Ulrich Schreiber, Heiner Igel, Céline Hadziioannou, Stefanie Donner, Felix Bernauer, Joachim Wassermann, Sven Edgorf, and Andrea Simonelli. "Design and construction of a large 4C ring laser: ROMY". In: *EGU General Assembly Conference Abstracts*. 2017, p. 10170.
- [12] Bryant Chow, Andrea Simonelli, Celine Hadziioannou, Stefanie Donner, and Heiner Igel. "The development of a rotational magnitude scale". In: *EGU General Assembly Conference Abstracts*. 2017, p. 4064.
- [13] Karl Ulrich Schreiber, Heiner Igel, Joachim Wassermann, André Gebauer, Andrea Simonelli, Felix Bernauer, Stefanie Donner, Celine Hadziioannou, Sven Edgorf, and Jon-Paul Wells. "Integration and initial operation of the multi-component large ring laser structure ROMY". In: *EGU General Assembly Conference Abstracts*. 2017, p. 5628.
- [14] Antonello Ortolan, J Belfi, F Bosi, A Di Virgilio, N Beverini, G Carelli, E Maccioni, R Santagata, A Simonelli, A Beghi, et al. "GINGER: An array of ring lasers for testing fundamental physics". In: *The Fourteenth Marcel Grossmann Meeting On Recent Developments in Theoretical and Experimental General Relativity, Astrophysics, and Relativistic Field Theories: Proceedings of the MG14 Meeting on General Relativity, University of Rome ÁúLa SapienzaÁú, Italy, 12-18 July 2015*. 2018, pp. 3557-3562.
- [15] Andreino Simonelli, Felix Bernauer, Bryant Chow, Thomas Braun, Joachim M Wassermann, and Heiner Igel. "Six components observations of local earthquakes during the 2016 Central Italy seismic sequence". In: *AGU Fall Meeting Abstracts*. Vol. 2017. 2017, S23E-08.
- [16] Heiner Igel, Andre Gebauer, Andreino Simonelli, Jan Kodet, Felix Bernauer, Stefanie Donner, Joachim M Wassermann, Toshiro Tanimoto, and Karl Ulrich Schreiber. "A Multicomponent Large Ringlaser for Seismology: First Observations". In: *AGU Fall Meeting Abstracts*. Vol. 2017. 2017, S21A-0693.
- [17] Andreino Simonelli, Jacopo Belfi, Nicolò Beverini, Angela Di Virgilio, Umberto Giacomelli, Gaetano De Luca, and Heiner Igel. "Love waves trains observed after the MW 8.1 Tehuantepec earthquake by an underground ring laser gyroscope". In: *AGU Fall Meeting Abstracts*. Vol. 2017. 2017, S33G-2954.
- [18] André Gebauer, Ulrich Schreiber, Heiner Igel, Stefanie Schwarz, Stefanie Donner, Céline Hadziioannou, Felix Bernauer, Sven Edgorf, Joachim Wassermann, and Andrea Simonelli. "Performance and capability of the large 4C ring laser: ROMY". In: *EGU General Assembly Conference Abstracts*. 2018, p. 13885.
- [19] Umberto Giacomelli, Jacopo Belfi, Nicolò Beverini, Angela Di Virgilio, Enrico Maccioni, Dmitry Primakov, Andreino Simonelli, and Fabio Stefani. "Geometry control of large frame square cavity ring laser Gyroscopes". In: *EGU General Assembly Conference Abstracts*. 2018, p. 6732.
- [20] Karl Ulrich Schreiber, Heiner Igel, Joachim Wassermann, Andrea Simonelli, André Gebauer, Jan Kodet, and Jon-Paul Wells. "Progress in Sagnac Interferometry". In: *EGU General Assembly Conference Abstracts*. 2018, p. 14308.
- [21] Andreino Simonelli, Ulrich Schreiber, Heiner Igel, Joachim Wassermann, André Gebauer, Felix Bernauer, Angela Di Virgilio, Jacopo Belfi, and Nicolò Beverini. "Analysis of multi-site and multi-components earthquake-generated rotational ground motion: from tele-seismic to local distances." In: *EGU General Assembly Conference Abstracts*. 2018, p. 13264.
- [22] R Santagata, J Belfi, N Beverini, G Carelli, A Di Virgilio, E Maccioni, and A Simonelli. "Novel Progress in the High-sensitivity Heterolithic Ring Laser Gyroscope Technology". In: *Doctoral Consortium on Photonics, Optics and Laser Technology*. Vol. 2. SCITEPRESS. 2015, pp. 10-18.

- [23] Andreino Simonelli, Nicolò Beverini, Angela Di Virgilio, Umberto Giacomelli, and Enrico Maccioni. "Rotational ground motion induced by mediterranean sea storm activity." In: *Geophysical Research Abstracts*. Vol. 21. 2019.
- [24] Umberto Giacomelli, Enrico Maccioni, Nicolò Beverini, Andreino Simonelli, Daniele Carbone, Salvatore Gambino, Massimo Orazi, Rosario Peluso, and Fiodor Sorrentino. "Analysis of soil strain induced by the seismic event of 6 October 2018 on Etna mount." In: *Geophysical Research Abstracts*. Vol. 21. 2019.
- [25] Karl Ulrich Schreiber, Heiner Igel, Andre Gebauer, Joachim M Wassermann, Chin Jen Lin, Felix Bernauer, Andreino Simonelli, and Jon-Paul Renee Wells. "ROMY: A 4-component large ring laser for geophysics". In: *2016 AGU Fall Meeting*. AGU. 2016.
- [26] Filippo Bosi, Angela DV Di Virgilio, Umberto Giacomelli, Andrea Simonelli, Giuseppe Terreni, Andrea Basti, Nicolò Beverini, Giorgio Carelli, Donatella Ciampini, Francesco Fuso, et al. "Small scale ring laser gyroscopes as environmental monitors". In: *Journal of Physics: Conference Series*. Vol. 1468. 1. IOP Publishing. 2020, p. 012220.
- [27] Filippo Bosi, Angela DV Di Virgilio, Umberto Giacomelli, Andrea Simonelli, Giuseppe Terreni, Andrea Basti, Nicolò Beverini, Giorgio Carelli, Donatella Ciampini, Francesco Fuso, et al. "Sagnac gyroscopes, GINGERINO, and GINGER". In: *Journal of Physics: Conference Series*. Vol. 1468. 1. IOP Publishing. 2020, p. 012243.
- [28] Andreino Simonelli, Matteo Desiderio, Umberto Giacomelli, Gaetano De Luca, Aladino Govoni, and Angela Di Virgilio. "Direct and array-derived rotations in the Gran Sasso underground laboratory: application to earthquakes and seismic noise." In: *EGU General Assembly Conference Abstracts*. 2020, p. 15258.

AUTORIZZAZIONE TRATTAMENTO DATI

Autorizzo il trattamento dei miei dati personali presenti nel curriculum vitae ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679).

April 18, 2023