


NAME AND CONTACT INFORMATION

Dr. Alessandro Navarrini

 INAF-Astronomical Observatory of Cagliari, Via della Scienza 5, 09047 Selargius (Italia)

 (+39) 07071180243

 alessandro.navarrini@inaf.it

Orcid ID: 0000-0002-6191-6958, <https://orcid.org/0000-0002-6191-6958>

Scopus ID: 8599782300

WORK EXPERIENCE

15/06/2015–Present

First Technologist at INAF (job title: “Primo Tecnologo”)

INAF (National Institute for Astrophysics)-Astronomical Observatory of Cagliari, Italy

Coordinator of PON WP1 “W-band multibeam heterodyne receiver for the SRT Gregorian Focus” (2.85 M€ grant awarded by the Italian Ministry of Education and Scientific Research) and Director of Execution of the Contract.

National Coordinator of the INAF activities on the Phased Array Feed (PAF) Advanced Instrumentation Program (AIP) for the Square Kilometer Array (SKA).

PI of development of high-frequency cryogenic PAF for radio astronomy application.

Supervisor of the development of the new receivers and components for the Sardinia Radio Telescope (SRT) at INAF-OA Cagliari.

Co-PI of Radionet (Radio Astronomy in Europe) Horizon2020 Joint Research Activity AETHRA WP1 program (Advanced European Technologies for Heterodyne Receivers for Astronomy, funded by the EU).

Part of the Sardinia Radio Telescope operating team.

Support astronomer of radio astronomy observations with the SRT telescope.

15/06/2010–14/06/2015

Head of IRAM Receiver Group

IRAM (Institut de RadioAstronomie Millimétrique), Saint Martin d'Hères, France

In charge of a team of ≈20 people, including engineers and technicians. Team management, activity reporting, technical and administrative leadership of the group.

Team organization and supervision of the design and construction of the low-noise millimeter/submillimeter wavelength receivers of the IRAM NOEMA interferometer: developed and installed the first quadri-band receiver prototype on NOEMA Ant. 7 (≈70-373 GHz covered in four receiver bands) and started the production of the receiver series for the other NOEMA antennas.

Supervision of the design and construction of the upgrades of the EMIR receiver for the IRAM 30-m Pico Veleta radiotelescope.

Proposal, design study and development of passive components of the 67-116 GHz ALMA Band 2+3 receiver cartridge (funded by ESO).

Co-PI of Radionet FP7 AETHER WP1 program (Advanced European Terahertz HeterodynE Receivers, funded by the EU) for the development of the passive and the active components of low-noise dual-polarization cryogenic modules based on MMIC amplifiers for a W-band focal plane array.

Supervision of coordination of ALMA Band 7 receiver cartridge production at IRAM.

02/05/2006–14/06/2010

First Technologist at INAF (job title: “Primo Tecnologo”)

INAF (National Institute for Astrophysics)-Astronomical Observatory of Cagliari, Italy

Contribution to the development of the L-P band coaxial receiver for the Sardinia Radio Telescope.

Development of microwave and millimetre-wave components for the SRT.

Co-PI of Radionet FP7 Joint Research Activity AMSTAR+ WP1 program (Advanced Millimeter and Submillimeter Technology for Astronomical Research+, funded by the EU).

Lecturer of the "Radio Astronomy Laboratory" course, Physics Department, University of Cagliari, Italy.

10/03/2003–30/04/2006

Postdoctoral Scholar at UC Berkeley

Radio Astronomy Laboratory, University of California, Berkeley, United States

Receiver developments for the CARMA (Combined Array for Research in Millimeter-Wave Astronomy) interferometer. Design of superconducting Double Side Band (DSB) SIS mixers with integrated low noise amplifiers (LNAs) and of orthomode transducers (OMTs) for the 1.3 mm band. Contribution to construction of the CARMA array.

15/03/2002–09/03/2003

Postdoctoral Scholar at IRAM

IRAM (Institut de RadioAstronomie Millimétrique), Saint Martin d'Hères, France

Design of backshort-tuned Single Side Band (SSB) SIS mixers and receivers for the 2 mm band of the IRAM Plateau de Bure Interferometer (Band 2).

EDUCATION AND TRAINING

15/04/1998–14/03/2002

PhD in Electronics and Microelectronics

Université Joseph Fourier, Grenoble, France. Thesis work prepared at IRAM (Institut de RadioAstronomie Millimétrique), Receiver Group, Saint Martin d'Hères, France

PhD Dissertation: *Development of DSB and SSB Superconductor Insulator Superconductor (SIS) Mixers for Radio Astronomy in the frequency band 250-370 GHz* (supervisor: B. Lazareff).

13/04/1997–31/12/1997

M.A. in Optical Technologies

AILUN (Associazione Istituzione Libera Università Nuorese), Nuoro, Italy

Thesis work prepared at the Optical Science Laboratory, University College London, UK. Dissertation title: *A lateral shearing interferometer for optical testing* (supervisor: D. Walker).

M.A. in Physics

University of Florence, Florence (Italy), Sep. 1996

Thesis work prepared at the Arcetri Astrophysical Observatory, Florence, Italy. Dissertation title: *Dynamical evolution of stars and interstellar gas in young clusters* (supervisor: F. Palla).

PERSONAL SKILLS

Languages Italian (mother tongue)

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
French	C1	C1	C1	C1	C1
Spanish	C1	C1	C1	C1	B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills

Good communication skills gained during my teaching at University of Cagliari (Italy), my role of head of Front-End Group at IRAM (France) and my current and past positions at INAF.

Job-related skills

Long-standing expertise in millimeter-wave engineering and superconducting device physics.

Electromagnetic analysis of various design concepts using computer modelling tools (CST Microwave Studio, HFSS, Microwave Office, ADS, Sonnet). Development of innovative devices from inception to production. Design and characterization of SIS mixers, orthomode transducers (OMTs), microstrip/coplanar waveguide/stripline filters, waveguide filters and couplers, antenna feed-horns, low noise amplifiers (LNAs), integrated receiver module based on SIS mixer and MMIC amplifier, integrated dual-polarization MMIC receiver modules based on “active OMT”. Design of cryogenic systems.

Technical and administrative leadership and project management. Organization and coordination of technical work within given timescales and budgets. Supervision of high performing team. Results-oriented with demonstrated success in general management. Execution of large contracts.

Over twenty years of experience in design, construction, testing and production of microwave and millimeter-wave cryogenic low-noise wideband receivers for radio astronomy. Development of cryogenic receivers with state-of-the-art performance for IRAM, CARMA, ALMA and the SRT telescopes.

Radio astronomy observations

Support astronomer for radio astronomy observations with the SRT telescope and data reduction. Supervisor on Duty (SD) and Observer in Antenna (OiA) during the SRT Early Science Program. Data reduction of PdB interferometric data.

Teaching at University of Cagliari, Italy

Lecturer of a 72-hour course of “Radio Astronomy Laboratory” to fifth-year Physics students at the University of Cagliari in the academic year 2007/2008. The course was organized in a theoretical section focusing on microwave circuits and radio telescope (antenna optics, receivers and backends) and on an experimental section covering the use of the main microwave laboratory instrumentation (Vector Network Analyzers, Spectrum Analyzer, Noise Figure Analyzers and Oscilloscopes).

Lecturing at International Summer Schools and Universities short courses

Lecturer on “Radio Astronomy Receivers and Instrumentation” at the following International Schools: “Summer School on Single-Dish Radio Astronomy”, Santa Margherita di Pula, 12-17 September 2011; “6th IRAM 30-m Summer School 2011”, Pradollano, Granada, Spain, 23-30 September 2011; “School on Technology in Radio Astronomy and Space Science”, Pula, Italy, 11-16 June 2012; “7th IRAM 30-m Summer School 2013”, Pradollano, Granada, Spain, 13-20 September 2013; “Radio Astronomy Front-Ends”, Escuela Politecnica Superior, Universidad Autonoma de Madrid, Madrid, Spain, 8 September 2014.

Attended management course

Team management “Module 1: Manage your team performance” 35 hours, from 07/10/2010 to 02/12/2010, held at CCI Groupe Formation, Grenoble, France.

Funded programs, committees and other activities

Research grants and raised funds

Projects funds at INAF-OA Cagliari, Italy:

- Co-P.I. in project funded by the Italian Space Agency (ASI) titled *Technological development at millimeter wavelengths for polarization space missions*. The project was aiming at developing a planar OrthoMode Transducer for millimeter wavelengths (approved grant of 68.5 k€, TAS-I proposal for ASI 2007 technological development projects)
- P.I. of project funded by the Sardinia Regional Government on the *Analysis, optimization and characterization of microwave planar devices based on High Temperature Superconductor (HTS) technology* (approved grant of 53.6 k€).
- Co-P.I. of project funded under the Joint Research Activity AMSTAR+ consortium (Advanced Mm and Sub-mm Technologies for Astronomical Research) by Radionet FP7 *Development of a 3 mm band waveguide OMT prototype unit* (approved grant of 17.4 k€). The 42-month project ended in June 2012.
- P.I. of project funded by INAF SKA “Astronomia Industriale 2017. *INAF participation to Phased Array Feed (PAF) Advanced Instrumentation Program (AIP) for SKA*. Total funds for the 2017-2019 three-year program: 225 k€.
- Co-P.I. of project funded under the Joint Research Activity AETHRA consortium (Advanced European Technologies for Heterodyne Receivers for Astronomy) by HORIZON2020. *Develop and build a W-band MMIC array demonstrator*. Approved grant of 30 k€. Three-year project started on

Jan. 1st 2017.

- Coordinator of PON (Programma Operativo Nazionale) WP1: *W-band multibeam heterodyne receiver for the SRT Gregorian Focus*. Approved WP1 grant of 2.85 M€ awarded by the Italian Ministry of Education and Scientific Research, June 25th, 2019: 32-month programme aiming at procuring the W-band instrument based on the specifications and on the advanced project study carried out at INAF.

External projects funds of the IRAM Front-End group, France (period 2010-2015):

- Co-P.I. of project funded under the AETHER (Advanced European Terahertz Heterodyne Receivers) consortium by Radionet FP7 for the *Development of 67-116 GHz extremely wide RF-Band heterodyne modules* at IRAM (approved grant for WP1 of 95 k€).
- Co-P.I. of project funded by ESO (European Southern Observatory) for "Studies on ALMA upgrade". Project title: *Study of ALMA Band 2 and ALMA Band 2+3 receiver cartridges* (68.1 k€ grant).
- External contract with Taiwanese research institute (ASIAA Sinica) for the production of two ALMA Band 7 receiver cartridges (undisclosed contract value).
- External contract for the development and delivery of a 2 mm/1.3 mm dual-band SIS receiver to the Max Planck Institute for Solar System Research (undisclosed contract value).
- External contract for manufacturing of 20 Sideband Separating ALMA Band 7 SIS Mixers for ESO as spare parts for the ALMA Band 7 cartridges (undisclosed contract value).
- External contract for the production of two 3 mm band (84-116 GHz) Sideband Separating SIS mixers including IF hybrid for Chalmers University of Technology, Onsala Space Observatory (undisclosed contract value).

Committees

Participation to Committees:

- Member of Radionet (Radio Astronomy in Europe) Horizon2020 evaluation Committees "Short Term Missions" and "Support of Technical Events".
- Member of Italian Square Kilometer Array (SKA) board.
- Member of Phased Array Feed Consortium board for the Square Kilometer Array (SKA).
- Member of four international PhD Thesis examining committees (two at the Université Pierre et Marie Curie, Paris, France, one at the Universidad Politécnica de Madrid, Spain, one at University of Oxford, UK).
- Member of selection committee of "Commissione di Concorso" for the selection of two candidates for permanent research positions with ASI - Italian Space Agency (Bando 11/2016).
- President of selection committee of "Commissione di Concorso" for the selection of one position of "CTER-Technician" with fixed-term contract with INAF-OA Cagliari (Determina n. 14 15/10/2015).
- Member of selection committee of "Commissione di Concorso" for the selection of one position of "Technologist" with fixed-term contract with INAF-OA Cagliari (Selezione 1 Tecnologo OACA2016-SST3).
- Member of selection committee of "Commissione di Concorso" for the selection of 26 "Technologists" for permanent research positions with INAF, Prot. 5022/18, Tit.: V Cl 1, (Selezione 26 Tecnologi Codice Concorso: Settore Tecnologico ST-3 Tecnico-Scientifico).
- President of selection committee of "Commissione di Concorso" for the selection of one position of "CTER-Technician" with fixed-term contract with INAF-OA Cagliari (Determina n. 307 03/12/2018).

Other activities

Presentations, conference organization, publications and article reviewing, university supervision:

- Presentations at National and International Conferences (including as "invited speaker") and at Research Organizations (over 100 presentations).
- Organizer of the International *Phased Array Feed Workshop PAF2016* (<http://paf2016.oa-cagliari.inaf.it/>) and of Riunione Nazionale di Elettromagnetismo *RINEM2018* (<http://sites.unica.it/rinem2018/>).
- Author of over 100 technical publications in international journals, technical memos or conference proceedings.
- Serving regularly as reviewer of technical articles for IEEE Trans. Micr. Theory and Tech., IEEE Trans. on Terahertz Science and Tech., IEEE Microwave and Wireless Component Letters,

Progress in Electromagnetic Research and PASA (Publication of the Astronomical Society of Australia), Journal of Instrumentation (JINST).

- Supervisor of two Master Thesis students at the Department of Electrical and Electronics Engineering of the Cagliari University (DIEE), Italy.

Visiting periods

- Three-month visit to the Australian Telescope National Facility (ATNF), Receiver Group, Sydney, Australia, starting from Oct. 2008. Helped in development of a C-Band cryogenic low noise amplifier (LNA) for the ATCA (Australian Telescope Compact Array), pag. 8 of http://www.atnf.csiro.au/news/newsletter/apr09/ATNFnews_Apr09_lowres.pdf
- Three-week visit to the Australian Telescope National Facility (ATNF), Receiver Group, Sydney, Australia, starting from Nov. 8th 2017, to discuss technical collaboration on Phased Array Feed in the framework of the SKA Advanced Instrumentation Program on PAFs.

Publication list

The following list includes refereed publications and non-refereed technical memos:

- G. Pupillo, **A. Navarrini**, A. Melis, R. Concu, P. Ortu, P. Marongiu, G. Naldi, S. Rusticelli, A. Saba, A. Scalambra, L. Schirru, A. Ladu, T. Pisanu, E. Urru, *Preliminary characterization of the digitally formed beams of PHAROS2 Phased Array Feed*, Accepted for publication in Proceedings of European Microwave Week 2020, to be held in Utrecht, The Netherlands, 13-18 Sep. 2020.
- F. Thome, E. Ture, A. Leuther, F. Schaefer, **A. Navarrini**, P. Serres, O. Ambacher *A Fully-Integrated W-Band I/Q-Down-Conversion MMIC for Use in Radio Astronomical Multi-Pixel Receiver*, 293-UY25, To be published in IEEE Proceedings of the IMS International Microwave Symposium, Los Angeles, CA, USA, 21-26 June 2020.
- T. Pisanu, S. Casu, P. Marongiu, **A. Navarrini**, G. Deiana, C. Migoni, *Misure di temperatura di rumore con diversi materiali, sulla copertura del Gregoriano di SRT*, INAF Internal Report n. 16, 2020-04-07T08:48:22Z, March 2020, Available at: <https://openaccess.inaf.it/handle/20.500.12386/23887>.
- **A. Navarrini**, L. Olmi, R. Nesti, P. Marongiu, P. Ortu, L. Cresci, A. Orlati, A. Scalambra, A. Orfei, *Design concept of W-band multibeam receiver for the SRT*, To be published in Proceedings of the ISSTT International Symposium of Space Terahertz Technology, Phoenix, AZ, USA, 8-11 March, 2020.
- F. Thome, E. Ture, R. Iannucci, A. Leuther, F. Schaefer, **A. Navarrini**, P. Serres, *Frequency Multiplier and Mixer MMICs Based on a Metamorphic HEMT Technology Including Schottky Diodes*, IEEE Access, Vol. 8, Issue 1, pp 12697-12712, ISSN: 2169-3536, DOI: 10.1109/ACCESS.2020.2965823.
- P. Ortu, A. Saba, P. Marongiu, F. Gaudiomonte, **A. Navarrini**, A. Cattani, A. Maccaferri, A. Scalambra, *Control Box PHAROS2*, INAF Technical Report n. 4, 2020-01-10T10:28:22Z, Available at: <https://openaccess.inaf.it/handle/20.500.12386/23053>.
- A. Scalambra and **A. Navarrini**, National Instrument Success Story *National Institute for Astrophysics Designs Innovative Phased Arrays for Radio Astronomy Applications* SS-M-INF 2019.11.11, Nov. 2019, Available at: <https://www.awr.com/serve/ss-m-inf>
- F. Buffa, R. Concu, G.L. Deiana, E. Egron, M.N. Iacolina, S. Loru, A. Maccaferri, A. Melis, M. Messerotti, S. Mulas, G. Murtas, **A. Navarrini**, A. Orfei, P. Ortu, T. Pisanu, A. Pellizzoni, S. Righini, A. Saba, G. Serra, C. Tiburzi, G. Valente, S. Viviano, A. Zanichelli, P. Zucca, *Testing Technological and Astronomical SDSA/SRT Capabilities for Solar and near-Sun Observations*, 70th International Astronautical Congress IAC 2019, 21-25 October 2019, Washington, D.C., USA.
- T. Pisanu, L. Schirru, E. Urru, **A. Navarrini**, *Design and simulations of a Phased Array Feed for the BIRALET Radar*, 70th International Astronautical Congress IAC 2019, 21-25 October 2019, Washington, D.C., USA.
- **A. Navarrini**, A. Scalambra, A. Melis, S. Rusticelli, R. Concu, P. Ortu, G. Naldi, G. Pupillo, A. Maccaferri, A. Cattani, A. Ladu, L. Schirru, F. Perini, M. Morsiani, J. Monari, J. Roda, P. Marongiu, A. Saba, M. Poloni, M. Schiaffino, A. Mattana, G. Bianchi, G. Comoretto, R. Nesti, E. Urru, T. Pisanu, F. Schillirò, K. Zarb Adami, A. Magro, R. Chiello, *The Warm Receiver Section and the Digital Backend of the PHAROS2 Phased Array Feed*, Accepted for publication in IEEE Int. Symposium on Phased Array Systems and Technology, Waltham, MA, USA, Oct. 15-18, 2019.
- **A. Navarrini**, A. Scalambra, S. Rusticelli, A. Maccaferri, A. Cattani, F. Perini, P. Ortu, Juri Roda, P. Marongiu, A. Saba, M. Poloni, A. Ladu, *A 2.3-8.2 GHz room temperature multi-channel receiver for Phased Array Feed application*, IEEE UKRON2019 Conference, Lviv, Ukraine, July 2-6, 2019. DOI: 10.1109/UKRCON.2019.8879848.
- **A. Navarrini**, R. Nesti, L. Schirru, *Electromagnetic simulation and beam-pattern optimization of a C-*

band Phased Array Feed for SRT, IEEE UKRON2019 Conference, Lviv, Ukraine, July 2-6, 2019. DOI: 10.1109/UKRCON.2019.8879888.

- L. Schirru, T. Pisanu, **A. Navarrini**, E. Urru, F. Gaudiomonte, P. Ortu, G. Montisci, *Advantages of using a C-band Phased Array Feed as a receiver in the Sardinia Radio Telescope for Space Debris monitoring*, IEEE UKRON2019 Conference, Lviv, Ukraine, July 2-6, 2019. DOI: 10.1109/UKRCON.2019.8879919.

- **A. Navarrini**, A. Scalambra, S. Rusticelli, A. Maccaferri, A. Cattani, F. Perini, P. Ortu, Juri Roda, P. Marongiu, A. Saba, M. Poloni, A. Ladu, L. Schirru, *The Room Temperature Multi-Channel Heterodyne Receiver Section of the PHAROS2 Phased Array Feed*, MDPI Electronics, 8(6), 666, 2019, doi:10.3390/electronics8060666.

- A. Orfei, A. Scalambra, P. Marongiu, M. Poloni, G. Comoretto, **A. Navarrini**, A. Orlati, E. Carretti, *Nuovo Sistema Ricevitori a SRT e loro integrazione ai Back-End*, INAF Internal Report, 15 May 2019.

- A. Pellizzoni, S. Righini, G. Murtas, F. Buffa, R. Concu, E. Egron, M. N. Iacolina, S. Loru, A. Maccaferri, A. Melis, **A. Navarrini**, A. Orfei, P. Ortu, T. Pisanu, A. Saba, G. Serra, G. Valente, A. Zanichelli, P. Zucca and M. Messerotti, *Imaging of the solar atmosphere in the centimetre-millimetre band through single-dish observations*, "Il Nuovo Cimento", 42 C, June 2019. DOI 10.1393/ncc/i2019-19009-x.

- S. Loru, A. Pellizzoni, E. Egron, S. Righini, M. N. Iacolina, S. Mulas, M. Cardillo, M. Marongiu, R. Ricci, M. Bachetti, M. Pilia, A. Trois, A. Ingallinera, R. Genova-Santos, O. Petruk, G. Murtas, G. Serra, F. Buffa, R. Concu, F. Gaudiomonte, A. Melis, **A. Navarrini**, D. Perrodin, G. Valente, *Investigating the high-frequency spectral features of SNRs Tycho, W44 and IC443 with the Sardinia Radio Telescope*, MNRAS, 01/2019, Volume 482, Issue 3, p.3857-3867, Bib.: 2019MNRAS.482.3857L.

- A. Scalambra, **A. Navarrini**, J. Roda, M. Poloni, F. Perini, A. Cattani, A. Maccaferri, S. Mariotti, P. Ortu, A. Saba, P. Marongiu, *PCB a 8 canali a singola conversione a rilezione d'immagine sintonizzabile. Primo prototipo*, INAF-IRA Internal Report n. 502-18, Nov. 30, 2018, available at <https://www.ira.inaf.it/Library/rapp-int/520-18.pdf>

- N. Antonietti, M. Burgay, R. Concu, G. Hellbourg, C. Maccone, A. Melis, S. Montebugnoli, P. Pari, D. Perrodin, **A. Navarrini**, F. Schillirò, S. Sadasivan, *Modeling Fast Radio Burst using the KLT*, Proceedings of 69th International Astronautical Congress 2018, Bremen, Germany, Oct. 1-5, 2018.

- A. Melis, R. Concu, D. Perrodin, A. Possenti, G. Aresu, M. Burgay, S. Casu, E. Egron, F. Loi, S. Loru, M. Murgia, A. Pellizzoni, M. Pilia, V. Vacca, C. Maccone, P. Pari, M. Lunesu, **A. Navarrini**, T. Pisanu, S. Montebugnoli, *INAF-UC Berkeley Collaboration for SETI*, Proceedings of 69th International Astronautical Congress 2018, Bremen, Germany, Oct. 1-5, 2018.

- **A. Navarrini**, G. Valente, P. Serres, F. Schaefer, F. Thome, O. Garnier, *Compact Dual-Polarization Cryogenic Receiver Module for the 75-116 GHz Band*, 2018 IEEE International Conference on Electromagnetics in Advanced Applications (ICEAA), Cartagena de Indias, Colombia, Sep. 10-14, 2018, pp 479-482.

- **A. Navarrini**, J. Monari, A. Scalambra, A. Melis, R. Concu, G. Naldi, A. Maccaferri, A. Cattani, P. Ortu, J. Roda, F. Perini, G. Comoretto, M. Morsiani, A. Ladu, S. Rusticelli, A. Mattana, P. Marongiu, A. Saba, M. Schiaffino, E. Carretti, F. Schillirò, E. Urru, G. Pupillo, M. Poloni, T. Pisanu, R. Nesti, G. Muntoni, K. Zarb Adami, A. Magro, R. Chiello, L. Liu, K. Grainge, M. Keith, M. Pantaleev, W. van Cappellen, *Design of Cryogenic Phased Array Feed for 4-8 GHz*, Proceedings of XXII Riunione Nazionale Elettromagnetismo –SIEM Academy (RINEM), ISBN 978-88-907599-2-5, Cagliari, Italy, Sep. 3-8, 2018, pp. 21-24. Available at <http://www.elettromagnetismo.it/wp-content/uploads/2018/09/XXII-RiNem-Conference-Proceedings.pdf>

- **A. Navarrini**, G. Valente, P. Serres, F. Schaefer, F. Thome, O. Garnier, *Design of Active Waveguide OMT for Radio Astronomy Receiver Array in the 3 mm Band*, Proceedings of XXII Riunione Nazionale Elettromagnetismo –SIEM Academy (RINEM), ISBN 978-88-907599-2-5, Cagliari, Italy, Sep. 3-8, 2018, pp. 389-392. Available at <http://www.elettromagnetismo.it/wp-content/uploads/2018/09/XXII-RiNem-Conference-Proceedings.pdf>

- A. Ladu, P. Ortu, A. Saba, M. Pili, T. Pisanu, A. Navarrini, *Sistema di controllo per la caratterizzazione dell'oscillatore locale ALMA impiegato nel ricevitore 100 GHz del Sardinia Radio Telescope*, INAF-Osservatorio Astronomico di Cagliari, Internal Report n. 73, 28/08/2018. Available at http://www.oa-cagliari.inaf.it/area.php?page_id=10.

- A. Melis, J. E. Enriquez, D. Werthimer, G. Hellbourg, A. Siemion, N. Antonietti, S. Montebugnoli, C. Maccone, M. Pilia, D. Perrodin, M. Burgay, R. Concu, **A. Navarrini**, P. Pari, F. Schillirò, *INAF-UC Berkeley Collaboration on SETI Activities*, Procs. of 42nd COSPAR scientific assembly, July 14-22, 2018, Pasadena, California, USA.

- G. Pisano, C. Tucker, D. Mugnai, L. Olmi, P. Bolli, A. Orfei, F. D'Agostino, M. Miglio, **A. Navarrini**, C. Riminesi *Metamaterial-based Toraldo pupils for super-resolution at millimetre wavelengths*, SPIE Astronomical Telescope & Instrumentation, Austin, Texas, USA, ISBN: 9781510619692, Volume

10708, id. 107080G 11 pp. (2018), June 10-15, 2018.

- **A. Navarrini**, J. Monari, A. Scalambra, A. Melis, R. Concu, G. Naldi, A. Maccaferri, A. Cattani, P. Ortu, J. Roda, F. Perini, G. Comoretto, M. Morsiani, A. Ladu, S. Rusticelli, A. Mattana, P. Marongiu, A. Saba, M. Schiaffino, E. Carretti, F. Schillirò, E. Urru, G. Pupillo, M. Poloni, T. Pisanu, R. Nesti, G. Muntoni, K. Zarb Adami, A. Magro, R. Chiello, L. Liu, K. Grainge, M. Keith, M. Pantaleev, W. van Cappellen, *Design of PHAROS2 Phased Array Feed*, Proceedings of 2nd URSI AT-RASC, Gran Canaria, 28 May – 1 June 2018.
- G. Naldi, G. Comoretto, R. Chiello, S. Pastore, G. Pupillo, A. Mattana, A. Melis, R. Concu, M. Alderighi, A. Aminaei, J. Baker, C. Belli, S. Chiarucci, S. D'Angelo, G. Dalle Mura, A. De Marco, R. Halsall, A. Magro, J. Monari, **A. Navarrini**, F. Perini, M. Poloni, M. Roberts, S. Rusticelli, M. Schiaffino, F. Schillirò, E. Zaccaro, K. Zarb Adami, *Development of a new digital signal processing platform for the Square Kilometer Array*, Proceedings of 2nd URSI AT-RASC, Gran Canaria, 28 May – 1 June 2018.
- L. Liu, K. Grainge, **A. Navarrini**, *PHased Arrays for Reflector Observing Systems and its upgrade*, Proceedings of 2nd URSI AT-RASC, Gran Canaria, 28 May – 1 June 2018.
- G. Valente, **A. Navarrini**, F. Schaefer, P. Serres, F. Thome, *Architecture of Highly Integrated Cryogenic Active Planar OrthoMode Transducer for the 3 mm Band*, Proceedings of 2nd URSI AT-RASC, Gran Canaria, 28 May – 1 June 2018.
- A. Pellizzoni, F. Buffa, E. Egron, M. N. Iacolina, S. Loru, A. Maccaferri, G. Murtas, **A. Navarrini**, A. Orfei, S. Righini, G. Serra, G. Valente, A. Zanichelli, P. Zucca, M. Messerotti, *High-Resolution Imaging of the Solar Chromosphere in the Centimetre-Millimetre Band through Single-Dish Observations*, Proceedings of 2nd URSI AT-RASC, Gran Canaria, 28 May – 1 June 2018.
- E. Egron, A. Pellizzoni, M. Giroletti, S. Righini, M. Stagni, A. Orlati, C. Migoni, A. Melis, L. Barbas, S. Buttaccio, P. Cassaro, P. De Vicente, M.P. Gawronski, M. Lindqvist, G. Maccaferri, C. Stanghellini, P. Wolak, J. Yang, **A. Navarrini**, S. Loru, M. Pilia, M. Bachetti, M.N. Iacolina, M. Buttu, S. Corbel, J. Rodriguez, S. Markoff, J. Wilms, K. Pottschmidt, M. Cadolle Bel, E. Kalemci, T. Belloni, V. Grinberg, M. Marongiu, G.P. Vargiu, A. Trois, *Single-dish and VLBI observations of Cygnus X-3 during the 2016 giant flare episode*, MNRAS, Vol. 471, Issue 1, pp. 2703-2714, Nov. 2017.
- **A. Navarrini**, *Sviluppi di Ricevitori e di Componentistica per Banda 3 mm ad INAF-OA Cagliari*, IV Workshop sull'Astronomia Millimetrica in Italia, Bologna, Italy, Nov. 7-10, 2017 (doi. 10.5281/zenodo.1116242).
- B. P. Abbott, R. Abbott, ... **A. Navarrini**, et al. (3677 coauthors), *Multi-messenger Observations of a Binary Neutron Star Merger*, The Astrophysical Journal Letters, 848:L12, Oct. 20, 2017.
- A. Melis, R. Concu, D. Perrodin, A. Possenti, G. Aresu, M. Burgay, S. Casu, A. Corongiu, E. Egron, F. Loi, S. Loru, M. Murgia, A. Pellizzoni, M. Pilia, V. Vacca, C. Maccone, P. Pari, M. Lunesu, C. Migoni, **A. Navarrini**, T. Pisanu, A. Trois, G. Valente, *SETI activities in Sardinia: status and ongoing development*, IAC-17-F1.2.3, 68th International Astronautical Congress (IAC), Adelaide, Australia, Sep. 25-29, 2017.
- E. Carretti, G. Aresu, M. Bachetti, M. Bartolini, F. Buffa, M. Burgay, M. Buttu, T. Caria, P. Castangia, S. Casu, R. Concu, A. Corongiu, G. Deiana, E. Egron, A. Fara, F. Gaudiomonte, V. Gusai, N. Iacolina, A. Ladu, S. Loru, P. Marongiu, A. Melis, P. Melis, C. Migoni, S. Milia, **A. Navarrini**, A. Orlati, P. Ortu, S. Palmas, A. Pellizzoni, D. Perrodin, M. Pilia, T. Pisanu, S. Poppi, I. Porceddu, S. Righini, A. Saba, G. Serra, L. Serrau, G. Surcis, A. Tarchi, A. Trois, V. Vacca, G. Valente, G. Vargiu, *The Sardinia Radio Telescope (SRT): A large modern radio telescope for observations from meter to mm wavelengths*, International Conference on Electromagnetics in Advanced Applications (ICEAA), Verona, Italy, pp. 1739-1742, Sep. 11-14, 2017.
- E. Egron, A. Pellizzoni, N. Iacolina, S. Loru, M. Marongiu, S. Righini, M. Cardillo, A. Giuliani, S. Mulas, G. Murtas, D. Simeone, R. Concu, A. Melis, A. Trois, M. Pilia, **A. Navarrini**, V. Vacca, R. Ricci, G. Serra, M. Bachetti, M. Buttu, D. Perrodin, F. Buffa, G. L. Deiana, F. Gaudiomonte, A. Fara, A. Ladu, F. Loi, P. Marongiu, C. Migoni, T. Pisanu, S. Poppi, A. Saba, E. Urru, G. Valente, G.P. Vargiu, *Imaging of SNR IC443 and W44 with the Sardinia Radio Telescope at 1.5 and 7 GHz*, MNRAS, Vol. 470, Issue 2, p.1329-1341, Sep. 2017.
- **A. Navarrini**, A. Orfei, R. Nesti, G. Valente, S. Mariotti, P. Bolli, T. Pisanu, J. Roda, L. Cresci, P. Marongiu, A. Scalambra, D. Panella, A. Ladu, A. Cattani, L. Carbonaro, E. Urru, A. Cremonini, E. Carretti, G. Ortu, F. Focchi, A. Melis, R. Concu, A. Saba, F. Schillirò, G. Comoretto, G. Naldi, A. Maccaferri, J. Monari, M. Morsiani, F. Perini, and M. Poloni, *Front-Ends and Phased Array Feeds for the Sardinia Radio Telescope*, Proceedings of 32nd URSI GASS Conference, Montreal, 19-26 August 2017 (invited talk).
- **A. Navarrini**, G. Valente, P. Marongiu, A. Ladu, *Optical design of S-band multifeed for the Sardinia Radio Telescope primary focus*, NEMO2017 IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization for RF, Microwave, and Terahertz

Applications, May 17-19, 2017, Sevilla, Spain.

- L. Liu, K. Grainge and **A. Navarrini**, *Analysis of Vivaldi Array Antenna for Phased Array Feed Application*, NEMO2017 IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization for RF, Microwave, and Terahertz Applications, May 17-19, 2017, Sevilla, Spain.
- A. Ladu, G. Valente, G. Montisci, **A. Navarrini**, P. Marongiu, G. Mazzarella, *High-Performance Cryogenic Fractal 1800 Hybrid Power Divider with Integrated Directional Coupler*, Radio Science, Vol. 52, Issue 6, pp.757-766, June 2017.
- A. Melis, R. Concu, P. Pari, C. Maccone, A. Possenti, G. Valente, D. Perrodin, C. Migoni, A. Trois, S. Casu, M.I. Lunesu, S. Montebugnoli, P. Pari, G. Valente, C. Migoni, A. Trois, D. Perrodin, A. Possenti, F. Schillirò, M. Barbaro, M. I. Lunesu, **A. Navarrini**, T. Pisanu, F. Schillirò, V. Vacca, *A real-time FFT-KLT implementation for SETI research at the Sardinia Radio Telescope*, 67th International Astronautical Congress (IAC), Guadalajara, Mexico, 26-30 September, 2016.
- **A. Navarrini**, A. Orfei, G. Valente, P. Bolli, L. Carbonaro, A. Cattani, A. Cremonini, L. Cresci, F. Fiocchi, A. Maccaferri, S. Mariotti, P. Marongiu, J. Monari, M. Morsiani, V. Natale, R. Nesti, D. Panella, M. Poloni, J. Roda, A. Scalambra, T. Pisanu, *The Sardinia Radio Telescope Front-Ends*, Proceedings of the 27th International Symposium on Space Terahertz Technology, Nanjing, China, 13-15 Apr. 2016.
- G. Valente, A. Ladu, P. Marongiu, **A. Navarrini**, T. Pisanu, *The 7 beams S-band cryogenic receiver for the Sardinia Radio Telescope primary focus: status of project*, to be presented at the SPIE Astronomical Telescope and Instrumentation Conference, 9914-74, Edinburgh, UK, 26 June-July 1, 2016.
- A. Ladu, G. Ortu, A. Saba, P. Marongiu, G. Valente, T. Pisanu, E. Urru, **A. Navarrini**, G. Mazzarella, *The control system and the new cryogenics of the 3 mm band SIS receiver for the Sardinia Radio Telescope*, SPIE Astronomical Telescope and Instrumentation Conference, 9914-75, Edinburgh, UK, 26 June-July 1, 2016.
- G. Valente, A. Orfei, R. Nesti, **A. Navarrini**, S. Mariotti, P. Bolli, T. Pisanu, J. Roda, L. Cresci, P. Marongiu, A. Scalambra, D. Panella, A. Ladu, A. Cattani, L. Carbonaro, E. Urru, A. Cremonini, F. Fiocchi, A. Maccaferri, M. Morsiani, M. Poloni, *Status of the radio receiver system of the Sardinia Radio Telescope*, Proc. SPIE 9914 Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VIII, 991425 Edinburgh, UK, 26 June-July 1, 2016.
- A. Melis, R. Concu, C. Maccone, S. Montebugnoli, P. Pari, G. Valente, C. Migoni, A. Trois, D. Perrodin, A. Possenti, F. Schillirò, M. Barbaro, M. I. Lunesu, J. Monari, **A. Navarrini**, M. Murgia, T. Pisanu, V. Vacca, *A real-time KLT implementation for radio-SETI applications*, SPIE Astronomical Telescope and Instrumentation Conference, 9914-113, Edinburgh, UK, 26 June-July 1, 2016.
- J.Y. Chenu, **A. Navarrini**, Y. Bortolotti, G. Butin, A.L. Fontana, S. Mahieu, D. Maier, F. Mattiocco, P. Serres, M. Berton, O. Garnier, Q. Moutote, M. Paroleau, B. Pissard, J. Reverdy, *The Front-End of the NOEMA Interferometer*, IEEE Trans. on THz Sci. and Tech, Vol. 6, no 2, pp. 223-237, Mar. 2016.
- F. Mattiocco, O. Garnier, D. Maier, **A. Navarrini**, P. Serres, *Electronically Tuned Local Oscillator for the NOEMA Interferometer*, IEEE Trans. on THz Sci. and Tech, Vol. 6, no 2, pp. 212-222, Mar 2016.
- G. Valente, G. Montisci, T. Pisanu, **A. Navarrini**, P. Marongiu, G. A. Casula, *A Compact L-Band Orthomode Transducer for Radioastronomical Receivers at Cryogenic Temperature*, IEEE Transactions on Microwave Theory and Techniques, Vol. 63 Issue 10, pp. 3218-3227, Oct. 2015 (10.1109/TMTT.2015.2464809).
- J.Y. Chenu, **A. Navarrini**, Y. Bortolotti, G. Butin, A.L. Fontana, S. Mahieu, D. Maier, F. Mattiocco, P. Serres, M. Berton, O. Garnier, Q. Moutote, M. Paroleau, B. Pissard, J. Reverdy, *The NOEMA Front-End*, 26th International Symposium on Space Terahertz Technology, M3-2, Cambridge, MA, USA, 16-18 Mar 2015.
- F. Mattiocco, O. Garnier, J.M. Danneel, M. Berton, D. Maier, **A. Navarrini**, J. Reverdy, P. Serres, *Electronically Tuned Local Oscillator for the NOEMA Interferometer*, 26th International Symposium on Space Terahertz Technology, P-29, Cambridge, MA, USA, 16-18 Mar 2015.
- S. Mahieu, Y. Bortolotti, J.Y. Chenu, F. Cope, A.L. Fontana, D. Maier, A. Navarrini, *Dual-Band SIS Receiver Design for Atmospheric Physics Research*, 26th International Symposium on Space Terahertz Technology, P-28, Cambridge, MA, USA, 16-18 Mar 2015.
- F. Mattiocco, J. M. Danneel, D. Maier, Q. Moutote, A. Navarrini, J. Reverdy, *NOEMA Band 2 LO spurious harmonics identification and suppression using custom made 135-184 GHz band-pass filter*, IRAM Technical Report, NOEMA Technical Memo FEND-02.10.014-A-REP, Jan. 12, 2015.
- P. Serres, **A. Navarrini**, Y. Bortolotti, O. Garnier, *The IF Output Impedance of SIS Mixers*, IEEE Transactions on Terahertz Science and Technology, Vol. 5 Issue 1, pp. 27-36, Jan. 2015 (10.1109/TTHZ.2014.2368786).

- F. Mattiocco, **A. Navarrini**, J. M. Danneel, E. de Rijk, *Qualification de filtres passe-bande 134-184 GHz fabriqués en impression 3D plastique par la société SWISSto12 pour l'atténuation des harmoniques de l'OL Band 2 NOEMA et comparaison avec les filtres usinés de manière traditionnelle*, IRAM Technical Report, NOEMA Technical Memo FEND-02.10.012-A-REP, Nov. 03, 2014.
- S. Mahieu, J.Y. Chenu, G. Butin, A.L. Fontana, D. Maier, F. Mattiocco, **A. Navarrini**, *Front End Receivers Specifications*, IRAM Technical Report, FEND-02.00.001-A02-SPE, NOEMA Project, Sep. 22, 2014.
- **A. Navarrini**, A.-L. Fontana, D. Maier, P. Serres, D. Billon-Pierron, *Superconductor-Insulator-Superconductor Mixers for the 2 mm Band (129-174 GHz)*, Journal of Infrared, Millimeter, and Terahertz Waves, Vol. 35, Issue 6, pp. 536-562, 2014 (DOI 10.1007/s10762-014-0076-x).
- F. Mattiocco, J. Reverdy, D. Maier, **A. Navarrini**, *NOEMA Band 1 and Band 2 2SB SIS mixers pumped by unwanted harmonics of the local oscillator*, IRAM Technical Report, NOEMA Technical Memo FEND-02.10.013-A-REP, Jul. 24, 2014.
- A. Ladu, T. Pisanu, **A. Navarrini**, P. Marongiu, G. Valente, *A 3 mm band SIS receiver for the Sardinia Radio Telescope*, Proc. SPIE Astronomical Telescope and Instrumentation, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VII, Conference volume 9153, doi:10.1117/12.2056339, Montréal, Canada, June 22-27, 2014.
- **A. Navarrini**, A.-L. Fontana, D. Maier, P. Serres, F. Mattiocco, *ALMA Band 2+3 (67-116 GHz) receiver cartridge prototype based on 4-12 GHz Sideband Separating SIS mixer technology*, IRAM Technical-Management Proposal for ALMA Upgrade submitted to ESO on June 17th 2014.
- P. Serres, **A. Navarrini**, Y. Bortolotti, O. Garnier, *Characterization of the IF output impedance of SIS mixers*, 25th International Symposium on Space Terahertz Technology Moscow, Russia, 27-30 April, 2014.
- F. Mattiocco, **A. Navarrini**, *Evaluation of the alumina relative dielectric permittivity across the 28-36 GHz and 85-108 GHz bands*, IRAM Technical Report, NOEMA Technical Memo FEND-02.10.008-A-REP, Feb. 05, 2014.
- A.L. Fontana, **A. Navarrini**, *Band 1 optical module n. 1 test report*, IRAM Technical Report, NOEMA Technical Memo FEND-02.01.002-REP, Nov. 15, 2013.
- F. Mattiocco, J. Y. Mayvial, **A. Navarrini**, *Phase Noise Measurement of Band 4 Local Oscillator (LO) with Rohde&Schwartz FSUP and SMA 100 Synthesizer*, IRAM Technical Report, NOEMA Technical Memo FEND-02.10.007-A-REP, Oct. 31, 2013.
- A.L. Fontana, **A. Navarrini**, *Band 2 optical module n. 2 test report*, IRAM Technical Report, NOEMA Technical Memo FEND-02.02.003-REP, Oct. 22, 2013.
- A.L. Fontana, **A. Navarrini**, *Band 2 optical module n. 1 test report*, IRAM Technical Report, NOEMA Technical Memo FEND-02.02.002-REP, Oct. 18, 2013.
- **A. Navarrini**, *Feasibility study of ALMA Band 2+3 (67-116 GHz) receiver cartridge*, IRAM Scientific-Technical-Management Proposal for ALMA Upgrade submitted to ESO CFP/ESO/13/16862/HNE on Aug 30th 2013.
- J.Y. Chenu, D. Maier, A.-L. Fontana, G. Butin, Y. Bortolotti, F. Mattiocco, S. Mahieu and **A. Navarrini**, *Design of the Front-End for the NOEMA Interferometer*, 24th International Symposium on Space Terahertz Technology, Groningen, The Netherlands, 8-10 Apr 2013.
- G. Valente, **A. Navarrini**, *Design of Planar Orthomode Transducer for 84-116 GHz*, 24th International Symposium on Space Terahertz Technology, Groningen, The Netherlands, 8-10 Apr 2013.
- **A. Navarrini**, G. Valente, A. Barbier, G. Perrin, K. Schuster, *Fabrication and Test of Planar OMTs for the 3 mm Band*, IRAM report for Italian Space Agency in the framework of TAS-I proposal, Dec. 20th 2012.
- **A. Navarrini**, J.Y. Chenu, F. Mattiocco, M. Torres, *Electromagnetic Compatibility tests of hexapod for NOEMA subreflector*, NOEMA Technical Memo FEND-00.00.001-REP, Institut de Radio Astronomie Millimétrique, Oct. 26, 2012.
- F. Mattiocco, J. Y. Chenu, **A. Navarrini**, *Characterization of NOEMA Band 2/3 Local Oscillator waveguide switch with the WR10 IRAM millimetre-wave VNA*, IRAM Technical Report, NOEMA Project, FEND-02.10.002-A-REP, Sep. 6, 2012.
- A.L. Fontana, C. Boucher, P. Serres, Y. Bortolotti, F. Cope, I. Stil, B. Lefranc, O. Garnier, G. Butin, F. Mattiocco, S. Navarro, D. John, **A. Navarrini**, K. Schuster, *A 3 mm multipixel SIS receiver for IRAM 30-m Pico Veleta telescope*, Proc. SPIE 8452, Millimeter, Submillimeter and Far-Infrared Detectors and Instrumentation for Astronomy VI, 84522E, Amsterdam, The Netherlands, Sep. 24, 2012.
- P. Serres, O. Garnier, Y. Bortolotti, S. Navarro, D. John, B. Pissard, **A. Navarrini**, K. Schuster, *A 3 mm band dual polarization MMIC receiver for the 30-m Pico Veleta Radio Telescope*, Proc. SPIE

8452, Millimeter, Submillimeter and Far-Infrared Detectors and Instrumentation for Astronomy VI, 84522E, Amsterdam, The Netherlands, Sep. 24, 2012.

- F. Mattiocco, J. Y. Chenu, A. Navarrini, *Characterization of NOEMA Band 2/3 LO waveguide switch with WR10 IRAM VNA*, IRAM Technical Report, FEND-02.10.002-A-REP, NOEMA Project, Sep 6, 2012.
- S. Mahieu, J.Y. Chenu, G. Butin, A.L. Fontana, D. Maier, F. Mattiocco, **A. Navarrini**, *Front End Receiver Specifications*, IRAM Technical Report, FEND-02.00.001-A01-SPE, NOEMA Project, May 22, 2012.
- I. Stil, A-L Fontana, P. Serres, B. Lefranc, **A. Navarrini**, K. Schuster, *Loss of WR10 Waveguide at 67-116 GHz*, 23rd International Symposium on Space Terahertz Technology, Tokyo, 2-4 Apr 2012.
- M. Carter, B. Lazareff, D. Maier, J.-Y. Chenu, A.-L. Fontana, Y. Bortolotti, C. Boucher, **A. Navarrini**, S. Blanchet, A. Greve, D. John, C. Kramer, F. Morel, S. Navarro, J. Penalver, K. Schuster, and C. Thum, *The EMIR Multi-band mm-Wave Receiver for the IRAM 30 m Telescope*, Astronomy & Astrophysics, Vol. 538, A89, Feb. 2012.
- S. Mahieu, D. Maier, B. Lazareff, **A. Navarrini**, G. Celestin, J.Chalain, D. Geoffroy, F.Laslaz, G. Perrin, *The ALMA Band-7 Cartridge*, IEEE Transactions on Terahertz Science and Technology, Vol. E Issue 1, pp.29-39, Jan 2012.
- G. Valente, P. Marongiu, S. Mariotti, T. Pisanu, **A. Navarrini**, P. Bolli, A. Orfei, *Progettazione Realizzazione e Caratterizzazione dei Componenti del Canale banda L del Ricevitore Coassiale LP*, INAF-OA Cagliari Internal Report n. 15, Dec. 28, 2011. Available at: http://www.oa-cagliari.inaf.it/area.php?page_id=10
- F. Mattiocco, M. Berton, J. Reverdy, **A. Navarrini**, *Noise measurements across 95-110 GHz of Band 1 2SB and SSB SIS mixers pumped with a Band 4 electronic LO built with LSPA2, LSPA107 and EPBA107C MMIC amplifiers*, IRAM Technical Report, FEND-02.10.01-008-A-REP, NOEMA Project, Nov. 9, 2011.
- N. Alcheikh, **A. Navarrini**, P. Serres, J.-M. Duchamp, P. Xavier, *Intérêt d'une co-simulation Matlab-ADS pour la conception d'un récepteur hétérodyne millimétrique supraconducteur*, 17èmes Journées Nationales Microondes, 18-20 Mai 2011, Brest, France.
- **A. Navarrini**, C. Groppi, G. Chattopadhyay, R. Lin, *Test of a Wavguide OMT for the 385-500 GHz Band*, 22nd International Symposium on Space Terahertz Technology, Tucson, USA, April 26-28, 2011.
- S. Mahieu, D. Maier, B. Lazareff, **A. Navarrini**, G. Celestin, J. Chalain, D. Geoffroy, F. Laslaz, G. Perrin, *Status of ALMA Band 7 cartridge production*, 22nd International Symposium on Space Terahertz Technology, Tucson, USA, April 26-28, 2011.
- A.L. Fontana, Y. Bortolotti, C. Boucher, F. Cope, B. Lefranc, D. Maier, F. Mattiocco, **A. Navarrini**, K. Schuster, *Study of a dual polarization SIS heterodyne receiver array for the 3 mm band of the Pico Veleta telescope*, URSI France, JS'11, Cnam Paris, pp. 213- 220, March 29-30, 2011.
- S. Mahieu, D. Maier, B. Lazareff, **A. Navarrini**, K. Schuster, *Status of ALMA Band 7 cartridge production*, URSI France, JS'11, Cnam Paris, pp. 79-89, March 29-30, 2011.
- G. Valente, **A. Navarrini**, T. Pisanu, *Double-Ridged Waveguide 1800 Hybrid Coupler with integrated Band Pass Filter*, IEEE Microwave and Wireless Component Letters, Vol 21, Issue 1, pp. 13-15, 2011.
- A.L. Fontana, B. Lazareff, **A. Navarrini**, Y. Bortolotti, *Heterodyne Array Receiver for Radio Astronomy in the 2 mm Band*, Proceedings of the 40th European Microwave Conference, Paris, pp. 906-909, Sep. 28-30, 2010.
- **A. Navarrini**, S. Mahieu, D. Maier, *Feasibility study for upgrading the ALMA Band 7 cartridge to 4-12 GHz IF band*, Proposal submitted to ESO in response to ESO call for Advanced Studies for ALMA upgrade CFP/ESO/10/10975/CNI, Sep. 14th, 2010.
- **A. Navarrini**, S. Mahieu, D. Maier, *Feasibility study of the optical system and of the passive components for a 67-116 GHz (Band 2 + 3) ALMA cartridge*, Proposal submitted to ESO in response to ESO call for Advanced Studies for ALMA upgrade CFP/ESO/10/10975/CNI, Sep. 14th, 2010.
- G. Valente, P. Bolli, T. Pisanu, R. Nesti, P. Marongiu, A. Orfei, **A. Navarrini**, S. Mariotti, J. Roda, *Progetto elettromagnetico dell'ottica del ricevitore dual-band L-P per il fuoco primario di SRT*, GAI04 Memo Series TM-12, Settembre 2010.
- C. Groppi, **A. Navarrini**, G. Chattopadhyay, *A Waveguide Orthomode Transducer for 385-500 GHz*, Proc. of SPIE Astronomical Telescope and Instrumentation, Millimeter and Submillimeter and Far-Infrared Detectors and Instrumentation for Astronomy V, Vol. 7741, pp. 77412D-77412D-11 San Diego, USA, July 15, 2010.
- G. Valente, **A. Navarrini**, T. Pisanu, *A Novel 1800 Hybrid Power Divider*, Proc. of SPIE Astronomical

Telescope and Instrumentation, Millimeter and Submillimeter and Far-Infrared Detectors and Instrumentation for Astronomy V, Vol. 7741, 77412F, San Diego, USA, July 15 2010.

- T. Pisanu, P. Marongiu, **A. Navarrini**, G. Valente, *A compact L-band Ortho Mode Junction*, Proc. of SPIE Astronomical Telescope and Instrumentation, Millimeter and Submillimeter and Far-Infrared Detectors and Instrumentation for Astronomy V, Vol. 7741, 774124, San Diego, USA, July 15 2010.
- G. Valente, T. Pisanu, P. Bolli, S. Mariotti, P. Marongiu, **A. Navarrini**, R. Nesti, A. Orfei, J. Roda, *The dual-band LP feed system for the Sardinia Radio Telescope prime focus*, Proc. of SPIE Astronomical Telescope and Instrumentation, Millimeter and Submillimeter and Far-Infrared Detectors and Instrumentation for Astronomy V, Vol. 7741, pp. 774126-774126-12, San Diego, USA, July 15 2010.
- **A. Navarrini**, C. Groppi, G. Chattopadhyay, *A Waveguide Orthomode Transducer for 385-500 GHz*, Proceedings of the 21st International Symposium on Space Terahertz Technology, Oxford, United Kingdom, March 23-25, 2010.
- **A. Navarrini**, T. Pisanu, R. Nesti, *A waveguide cavity 1800 hybrid coupler with coaxial ports*, Microwave and Optical Technology Letters, Vol. 51, No. 7, pp. 1646-1649, July 2009.
- P. Bolli, E. Carretti, **A. Navarrini**, *Design of an off-set optics with high polarization purity and large Focal-plane Area for CMB polarization observation*, Internal Report 428/2009, INAF (National Institute for Astrophysics), Feb. 2009. Available at: http://www.ira.inaf.it/Library/rapp-int/428_09.pdf
- **A. Navarrini**, R. Nesti, *Symmetric Reverse-Coupling Waveguide Orthomode Transducer for the 3 mm Band*, IEEE Trans. Microwave Theory Tech., Vol. 57, Issue 1, pp. 80-88, Jan. 2009.
- **A. Navarrini**, T. Pisanu, *L-Band Orthomode Transducer for the Sardinia Radio Telescope*, Proc. of SPIE Astronomical Telescope and Instrumentation, Ground-based and Airborne Instrumentation for Astronomy II, Vol. 7014, 70147N, Marseille, France, 23-28 June 2008.
- **A. Navarrini**, R. Nesti, *Dual-side backward coupler waveguide orthomode transducer for the 3 mm band*, Proc. of SPIE Astronomical Telescope and Instrumentation, Millimeter and Submillimeter Detectors and Instrumentation for Astronomy IV, Vol. 7020, 70202M, Marseille, France, 23-28 June 2008.
- G. Tofani, G. Alvito, **A. Navarrini**, and 53 more authors, *Status of the Sardinia Radio Telescope project*, Proc. of SPIE Astronomical Telescope and Instrumentation, Ground-based and Airborne Telescope II, Vol. 7012, 70120F, Marseille, France, 23-28 June 2008.
- **A. Navarrini**, R. Nesti, *Backward coupler Waveguide Orthomode Transducer for 84-116 GHz*, Proceedings of the 19th International Symposium on Space Terahertz Technology, Groningen, The Netherlands, April 28-30, 2008.
- A. Orfei, P. Bolli, S. Mariotti, **A. Navarrini**, R. Nesti, T. Pisanu, J. Roda, *Studio di Fattibilità del Front-End per il Ricevitore Doppia-Frequenza nelle Bande L e P per il Fuoco Primario di SRT*, Internal Report 413/08, INAF-IRA (Italian National Institute for Astrophysics), January 2008. Available at: <https://www.ira.inaf.it/Library/rapp-int/413-08.pdf>
- P. G. Huggard, A. L. Fontana, Y. Bortolotti, B. Lazareff, **A. Navarrini**, B.N. Ellison, *Photonic Local Oscillator operating at 77 K for a 2 mm band SIS Astronomical Heterodyne Receiver Array*, 32nd International Conference on Infrared and Millimetre Waves, Cardiff, UK, p. 710-711, September 02-07, 2007.
- **A. Navarrini**, R. L. Plambeck, *Orthomode Transducers for Millimeter Wavelengths*, Proc. Of URSI North American Radio Science Meeting, invited, Ottawa, Canada, July 22-26, 2007.
- **A. Navarrini**, *Sardinia Radio Telescope: Project Status*, Proc. of URSI North American Radio Science Meeting, Ottawa, Canada, July 22-26, 2007.
- A. L. Fontana, Y. Bortolotti, B. Lazareff, **A. Navarrini**, P. G. Huggard, B. N. Ellison, *Cryogenic Photonic Local Oscillator for a 2 mm band SIS Heterodyne Astronomical Receiver Array*, Electronic Letters, Vol. 43, Issue 20, pp 1121-1123, Sep 2007.
- **A. Navarrini**, T. Pisanu, S. Mariotti, T. Idda, *A simple K-band waveguide-to-microstrip probe transition*, Microwave and Optical Technology Letters, Vol. 47, No. 7, pp. 1597-1600, July 2007.
- P.G. Huggard, B.N. Ellison, A. Fontana, B. Lazareff, **A. Navarrini**, *Focal Plane Heterodyne SIS Receiver Array with Photonic LO Injection*, Proceedings of the 17th International Symposium on Space Terahertz Technology, Paris, France, May 10-12, 2006.
- **A. Navarrini**, A. Bolatto, R. L. Plambeck, *Test of 1 mm Band Turnstile Junction Waveguide Orthomode Transducer*, Proceedings of the 17th International Symposium on Space Terahertz Technology, Paris, France, May 10-12, 2006.
- M. Schicke, **A. Navarrini**, P. Ferrari, T. Zöpfl, F. Wittmann, W. Bedyk, G. Schrag, K. F. Schuster, *Niobium SupraMEMS for Reconfigurable Millimeter Wave Filters*, Proceedings of the 17th International Symposium on Space Terahertz Technology, Paris, France, May 10-12, 2006.

- **A. Navarrini**, A. Bolatto, R. L. Plambeck, *Preliminary test results of the turnstile junction waveguide Orthomode transducer for the 1 mm band*, CARMA Memo n. 32, March 15, 2006. Available at <http://www.mmarray.org/>
- **A. Navarrini**, R. L. Plambeck, *A Turnstile Junction Waveguide Orthomode Transducer*, IEEE Trans. Microwave Theory Tech., vol. 54, no. 1, pp. 272-277, January 2006.
- M. Schicke, **A. Navarrini**, K. F. Schuster, *Tunable GHz circuits with Niobium MEMS*, Symposium on Design, Test, Integration Packaging of MEMS/MOEMS, Montreux, Switzerland, ISBN: 2-84813-0357-1, June 01-03, 2005.
- **A. Navarrini**, R. L. Plambeck and D. Chow, *A Turnstile Junction Waveguide Orthomode Transducer for the 1 mm Band*, Proceedings of the 16th International Symposium on Space Terahertz Technology, Gothenburg, Sweden, May 02-04, 2005.
- M. Schicke, **A. Navarrini**, K. F. Schuster, *Variable capacitors in meander-suspended superconducting microbridge technology for high frequency applications*, Proceedings of the 16th Int. Symposium on Space Terahertz Technology, Gothenburg, Sweden, May 02-04, 2005.
- G. Engargiola, **A. Navarrini**, *K-band Orthomode Transducer with Waveguide Ports and Balanced Coaxial Probes*, IEEE Trans. Microwave Theory Tech., 53, 5, 1792-1801, May 2005.
- A. Bolatto, **A. Navarrini**, and R.L. Plambeck, *Test of OTXs and Fiber Optic Receiver Boxes*, Radio Astronomy Lab, UC Berkeley, Internal Report, March 22, 2005.
- G. Engargiola, **A. Navarrini**, R. L. Plambeck, N. Wadefalk, *Simple 1 mm receivers with fixed tuned double sideband SIS mixer and wideband InP MMIC amplifier*, International Journal of Infrared and Millimeter Waves, Vol. 25, No. 12, Dec. 2004, pp 1733-1755. Also available as CARMA Memo n. 30 at: <http://www.mmarray.org>
- M. Schicke, **A. Navarrini**, K. F. Schuster, *22 GHz tunable Bandpass Filters based on Niobium MEMS*, Proceedings of SPIE Millimeter and Submillimeter Detectors for Astronomy II, Glasgow, UK, pp. 826-833, June 23-25, 2004.
- G. Engargiola, **A. Navarrini**, R. L. Plambeck, N. Wadefalk, *Simple 1 mm receivers with fixed tuned double sideband SIS mixer and wideband InP MMIC amplifier*, Proceedings of SPIE Millimeter and Submillimeter Detectors for Astronomy II, Glasgow, UK, pp. 556-566, June 23-25, 2004.
- M. Felli, F. Massi, **A. Navarrini**, R. Neri, R. Cesaroni, T. Jenness, *New light on the S235A-B star forming region*, Astronomy & Astrophysics, 420, p. 553-569, 2004.
- **A. Navarrini**, R. L. Plambeck and E. Fields, *Thermal and Mechanical Tests of Loose-Tube and Military Tactical Fiber-optic Cables*, CARMA Memo n. 18, November 2003. Available at <http://www.mmarray.org/>.
- **A. Navarrini**, M. Carter, *Design of a Dual Polarization SIS Sideband Separating Receiver based on waveguide OMT for the 275-370 GHz frequency band*, Proceedings of the 14th International Symposium on Space Terahertz Technology, p. 159-168, Tucson, AZ, USA, April 22-24, 2003.
- **A. Navarrini**, B. Lazareff, *Design of 129-174 GHz SSB SIS mixer for Band 2 of New Generation Receiver of IRAM PdB Interferometer*, Proceedings of the 14th International Symposium on Space Terahertz Technology, p. 450-452, Tucson, AZ, USA, April 22-24, 2003.
- F. Mattiocco, **A. Navarrini**, *Noise Temperature measurement on an ALMA Band 7 receiver pumped with two types of Local Oscillators: Gunn+Multiplier or YIG+Multiplier+amplifiers*, IRAM Internal Report, Nov. 2002.
- **A. Navarrini**, F. Mattiocco and B. Lazareff, *Measurement of waveguide losses by the resonance method*, IRAM, Internal Note, November 2002.
- **A. Navarrini**, B. Lazareff, D. Billon-Pierron, I. Peron, *Design and characterization of a 225-370 GHz DSB and a 250-360 GHz SSB full height waveguide SIS mixers*, Proceedings of the 13th International Symposium on Space Terahertz Technology, p. 33-40, Cambridge, MA, USA, March 26-28, 2002.
- **A. Navarrini**, *Development of DSB and SSB SIS Mixers for Radio Astronomy in the frequency band 250-370 GHz*, PhD Thesis, Grenoble, France, March 14, 2002.
- **A. Navarrini**, D. Billon-Pierron, I. Peron, B. Lazareff, *Design and characterization of a 225-370 GHz DSB and a 247-360 GHz SSB waveguide SIS mixers*, Proceedings of the 26th International Conference on Infrared and Millimeter Waves, p. 1.30-1.32, Toulouse, France, September 10-14, 2001.
- **A. Navarrini**, B. Lazareff, *Développement d'un mélangeur SIS simple bande 260-360 GHz pour la radio astronomie millimétrique*, Proceedings des Journées Nationales du Réseau Doctorale de Microélectronique 2001, p. 155-156, Strasbourg, France, April 24-25, 2001.

- **A. Navarrini**, B. Lazareff, *275-370 GHz DSB and SSB waveguide mixers employing a tuned Nb/Al-AIOx/Nb SIS tunnel junction*, ALMA Memo n. 351, March, 2001. Available at: <http://www.alma.nrao.edu/memos/html-memos/alma351/memo351.pdf>
- **A. Navarrini**, D. Billon-Pierron, K.F. Schuster, B. Lazareff, *Design of a 275-370 GHz SIS mixer with image sideband rejection and stable operation*, Proceedings of the 12th International Symposium on Space Terehertz Technology", p. 205-214, San Diego, California, USA, 14-16 Feb, 2001.
- **A. Navarrini**, B. Lazareff, *A 260-360 GHz DSB waveguide mixer employing a tuned Nb/Al-AIOx/Nb SIS tunnel junction*, IRAM, Technical Report N. 259.00, September 2000.
- **A. Navarrini**, B. Lazareff, *A 260-360 GHz SSB waveguide mixer employing a tuned Nb/Al-AIOx/Nb SIS tunnel junction*, IRAM Technical Report N. 258.00, September 2000.
- **A. Navarrini**, B. Lazareff, *A worksheet to compute the properties of Superconductor-Insulator-Superconductor mixers*, Mathcad worksheet, IRAM, Receiver Group, June 1999.
- **A. Navarrini**, B. Lazareff, *Beam analysis program for axially symmetric feed systems*, Mathcad worksheet, IRAM, Receiver Group, November 1998.
- **A. Navarrini**, *A Lateral Shearing Interferometer for Optical Testing*, MS Thesis in Optical Technologies, AILUN, Nuoro, Italy, 1997.
- **A. Navarrini**, *Dynamical evolution of stars and interstellar gas in young cluster*, MS Thesis in Physics at the Arcetri Astrophysical Observatory, University of Florence, Italy, Sep. 1996.
- I. Cuseri, **A. Navarrini**, A. Riccardi, *Radio spectroscopy of Maser Sources: an algorithm for automatic identification of spectral lines*, Technical Report, Arcetri Astrophysical Observatory, Florence, Italy, June 1995.

ATEL (The Astronomers Telegram)

- E. Egron, A. Pellizzoni, M. Giroletti, S. Righini, A. Orlati, M.N. Iacolina, **A. Navarrini**, M. Buttu, C. Migoni, A. Melis, R. Concu, G.P. Vargiu, M. Bachetti, M. Pilia, A. Trois, S. Loru, M. Marongiu, *Monitoring of Cyg X-3 giant flare with Medicina and the Sardinia Radio Telescope*, ATel #9508, Sep. 2016.
- E. Egron, A. Pellizzoni, M. Bachetti, **A. Navarrini**, A. Trois, M. Pilia, M. N. Iacolina, A. Melis, R. Concu, S. Loru, A. Sessini, V. Grinberg, M. Nowak, S. Markoff, K. Pottschmidt, J. Rodriguez, J. Wilms, R. Ballhausen, S. Corbel, W. Eikmann, F. Fuerst, I. Kreykenbohm, M. Marongiu, A. Possenti, *Detection of a bright radio flare of Cygnus X-1 at 7.2 GHz with the Sardinia Radio Telescope*, ATel #9087, May 2016.
- E. Egron, A. Pellizzoni, M. Bachetti, **A. Navarrini**, A. Trois, M. Pilia, M. N. Iacolina, A. Melis, R. Concu, S. Loru, R. Ballhausen, S. Corbel, W. Eikmann, F. Fuerst, V. Grinberg, I. Kreykenbohm, M. Marongiu, M. Nowak, A. Possenti, K. Pottschmidt, J. Rodriguez, J. Wilms, *Detection of GRS 1915+105 and SS 433 at 7.2 GHz and 21.4 GHz with the Sardinia Radio Telescope*, ATel #8921, Apr. 7th, 2016.
- E. Egron, M. Bachetti, A. Pellizzoni, A. Trois, M. N. Iacolina, M. Pilia, S. Loru, **A. Navarrini**, R. Ballhausen, S. Corbel, W. Eikmann, F. Fuerst, V. Grinberg, I. Kreykenbohm, M. Marongiu, M. Nowak, A. Possenti, K. Pottschmidt, J. Rodriguez, J. Wilms, *Observations of H1743-322 with the Sardinia Radio Telescope: upper limits*, ATel #8849, March, 2016.
- E. Egron, M. Pilia, M. Bachetti, M. N. Iacolina, A. Pellizzoni, A. Trois, S. Loru, **A. Navarrini**, R. Ballhausen, S. Corbel, W. Eikmann, F. Fuerst, V. Grinberg, I. Kreykenbohm, M. Marongiu, M. Nowak, A. Possenti, K. Pottschmidt, J. Rodriguez, J. Wilms, *Sardinia Radio Telescope observations of IGR J17091-3624 – upper limit*, ATel #8821, March, 2016.