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languages: English, French

Professional Recognition

2002: The Onsala Medal of Recognition for work on the Odin satellite

Education

2023: *Habilitation à diriger la recherche* (Certification for Supervising Research)
Université Paris Cité

title: Development of Instrumentation for Radioastronomy

1991: Ph.D. Astronomy, University of Edinburgh

title: Gravitational Lenses and Conical Feedhorns

topic: Theoretical modeling of the amplification of submillimetre background radiation by the gravitational lensing of foreground galaxy clusters, and design considerations for conical feedhorns on SCUBA

supervisors: J.A. Peacock, W.K. Gear

1987: Bachelor of Mechanical Engineering (Honours with Distinction), McGill University

thesis: The Dynamics of a Tethered Platform in Orbit

supervisor: A.K. Misra

Positions

2007 – present: *Ingénieur de recherche* (Research Engineer)

Observatoire de Paris, France

2018-present *Hors Classe* (Exceptional Class)

2007-2018 *1^{re} classe* (First Class)

2019-present: QUBIC Calibration Scientist

2018-2022: Deputy Head of Group “Cosmology” at APC

2013-2017: SKA AAMID Consortium Project Scientist

2010-2012: Deputy Director, Nançay Radio Observatory

2006-2010: SKADS Project Scientist

2006 – 2007: SKADS Project Scientist

Observatoire de Paris, France

(funded by the European Commission Framework Programme 6)

2003 – 2006: Senior Research Associate

Arecibo Observatory, National Astronomy and Ionosphere Center, Cornell University
Puerto Rico, USA

2003-2006: ALFA Project Manager

2004-2005: Interim Head of Astronomy

2002 – 2003: Program Scientist for Space Astronomy

Canadian Space Agency, St-Hubert, Québec, Canada

1999 – 2002: Research Associate, and Adjunct Assistant Professor

Space Astronomy Laboratory, University of Calgary, Canada
(funded by the Canadian Space Agency)

1995 – 1999: Canadian Odin Instrumentation Scientist

Onsala Space Observatory, Gothenburg, Sweden
(funded by the Canadian Space Agency)

1991 – 1994: Research Associate

James Clerk Maxwell Telescope Group, Herzberg Institute of Astrophysics
National Research Council of Canada, Ottawa

Committees

- 2024 to present:** co-Chairman of the QUBIC Collaboration Board
- 2018 to present:** Member of the QUBIC Executive Board (QUBIC Calibration Scientist and Operations Manager)
- 2016 to present:** External member for the BINGO advisory committee
- 2010 to 2017:** Member of the Scientific Council of the SKA-LOFAR Working Group (*Conseil Scientifique de l'Action Spécifique SKA-LOFAR*)
- 2011 to 2015:** External member for the Science & Technology Advisory Committee of the *Institut de Recherche en Astrophysique et Planétologie* (IRAP)
- 2013 to 2014:** CNRS National Institute for Science of the Universe, Astronomy and Astrophysics longterm plan 2015-2020, member of working group F, “Future Instruments and Research & Development” (*Institut National de Science de l'Univers, Astronomie et Astrophysique, La Prospective 2015-2020, Groupe de travail F, “Moyens du futur et R&D amont”*)
- 2011:** Coordinator for the working group on low frequency radio astronomy for the CNRS/INSU Research & Development Workshop

Organigramme

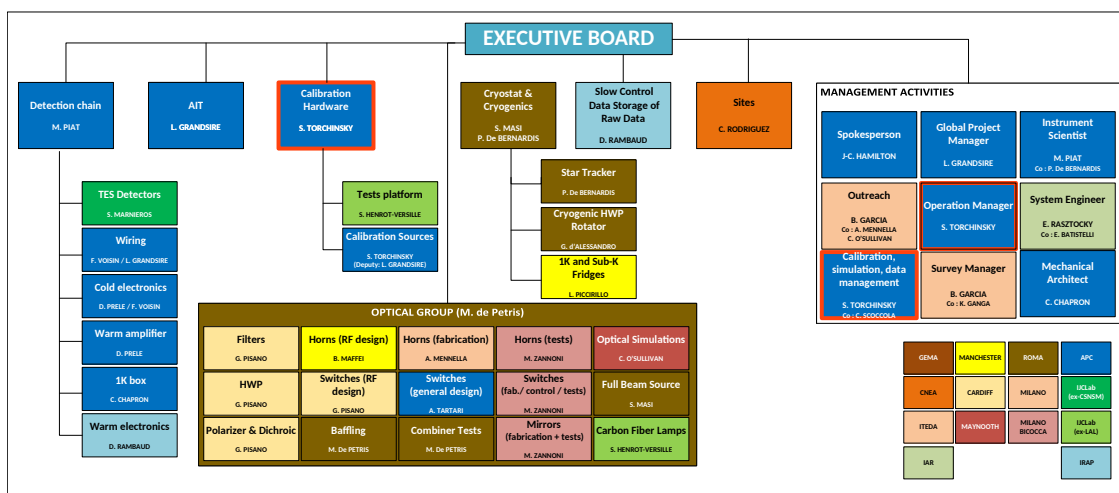


Figure 1: Organigramme du projet QUBIC. Je suis responsable de la « Calibration » et je suis responsable des opérations de l'instrument.

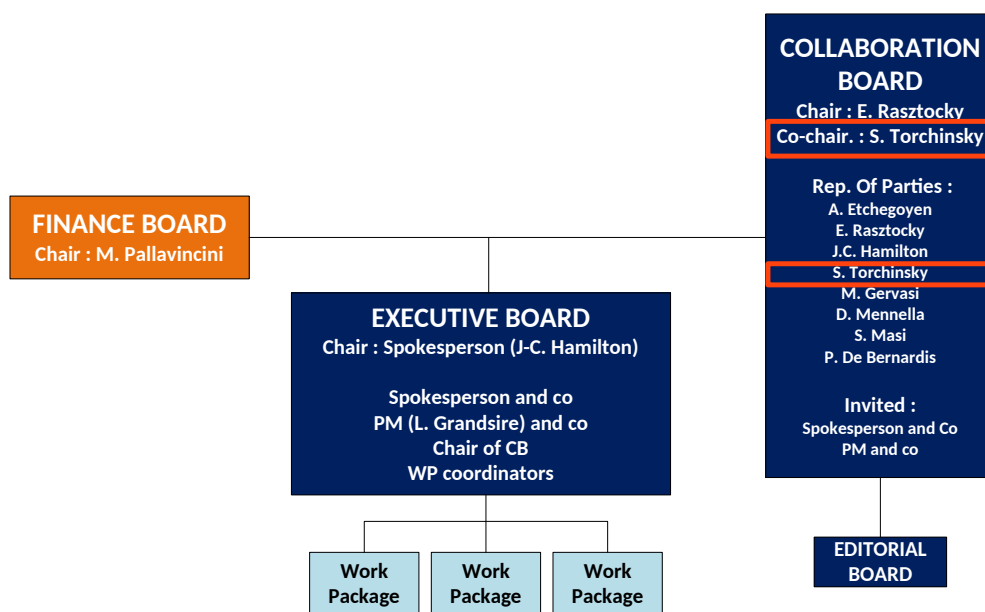


Figure 2: « Executive Board » et « Collaboration Board » du projet QUBIC. Je suis membre de l'« Executive Board » en tant que responsable de la « Calibration ». Je suis le représentant de la partie française « non-CNRS » de la collaboration et je suis **co-Chairman** de la « Collaboration Board ».

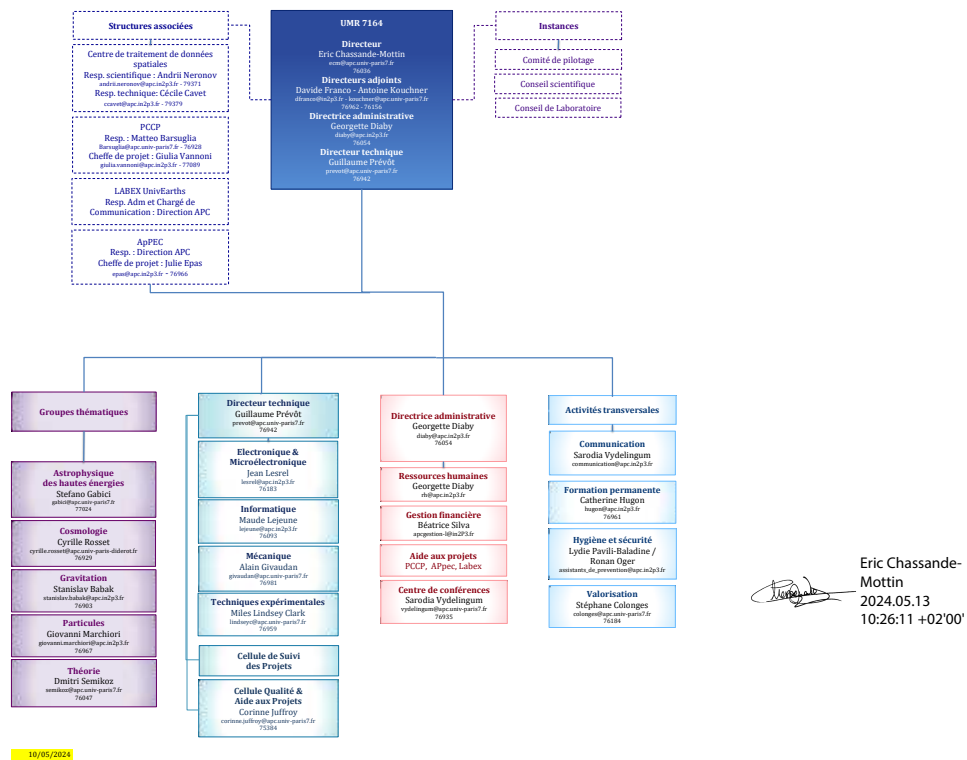


Figure 3: Organigramme de laboratoire Astroparticule et Cosmologie (CNRS UMR7164 / Université Paris Cité / Observatoire de Paris / CEA). Entre 2018 et 2022, je suis l'adjoint au responsable de l'équipe « Cosmologie ».

Software Development

QUBIC Data Visualization and Analysis

Read data from the QUBIC instrument, and make plots and basic analysis

- Software repository: <https://github.com/satorchi/qubicpack>

QUBIC Housekeeping Monitoring and Control

Command and collect data from various subsystems (Calibration Source, Heaters, Heat Switches, Temperature sensors, Pressure Sensors, Horn shutters,...)

- Software repository: <https://github.com/satorchi/qubichw>

QUBIC Scientific Simulations (contributor and maintainer)

Scientific simulations of Cosmic Microwave Background polarization and astrophysical foregrounds, including simulations of observations by QUBIC with implementations for parallel processing on super computers. This software package was originally written by Pierre Chaniel, and has numerous contributors from the QUBIC collaboration.

- Software repositories: <https://github.com/qubicsoft/qubic>
<https://github.com/qubicsoft/pysimulators>
<https://github.com/qubicsoft/pyoperators>

EMBRACE Observation Configuration and Data Analysis

Setup an astronomical observation with the EMBRACE dense aperture radio array, and read and analyze the data.

- Software repository: <https://bitbucket.org/embrace/>
- Documentation: <http://dx.doi.org/10.1051/0004-6361/201526706>

FITSplode

Data extractor for spectral line data in FITS files which use binary tables. This is intended for raw data from Effelsberg (in MBFITS format) and raw data from Arecibo (in CIMAFITS format). It explodes the file into individual FITS files each with one spectrum. These files can then be read into your favourite data processing program which might not read binary tables in FITS files, but which does read simple FITS files.

- Software repository: <http://satorchi.net/fitsplode/readme.php>

Software Development (cont'd)

Odin Housekeeping Data extraction and plotting

This package is used to work with large sets of housekeeping data, and was written to be used as a trouble shooting tool. It was used to track down problems during the Solar Simulation experiments during June/July 2000. The package was written in C++ and PGplot.

Odin Command scripts generator

This tool generates the sequence files required to command the Radiometer into its various observing modes. In particular, the program generates the scripts for the calibration and the setting-up of the backend spectrometers (the Acousto-Optic Spectrometer and the Autodigital Correlators). The program was written as a “bash” script making use of a number of Unix utilities, including in particular sed and awk. It was later rewritten in C++ and reads the observing mode from a master spreadsheet. The program runs under several platforms including DOS, Windows 9x/NT/2000, Linux, and Solaris.

- Software repository: http://satorchi.net/Odin/mkbckseq_src_v2-6-0.zip

Odin Data extraction and plotting

For scientific and housekeeping data from telemetry for the Odin Radiometer. This includes processing of data from the Autodigital Correlator, and the Acousto-Optic spectrometer. The package is also used to plot Beam Profile measurements that were done in the lab. The package is written in IDL.

- Documentation: <http://satorchi.net/Odin/radiometersoft/index.php>

3-dimensional Quasi-Optical ray tracing

This program was written in AutoLISP as a plugin for AutoCAD. The program calculates and draws Gaussian beam envelopes, as well as mirror and lens surfaces. There is also some limited capability for output directly to CAM in Heidenheim format. I created a preliminary new version of this software written in C++ using the Fast-Light Toolkit. It has the added ability to propagate beam calculations through an optical train with an arbitrary number of elements.

- Documentation: <http://satorchi.net/Odin/qo/index.php?3dtracing>

CGS4 Cryogenic temperature monitoring

This system was written in ASYST for the Cooled Grating Spectrometer 4th Generation (CGS4) installed on the UKIRT facility on Mauna Kea, Hawaii in 1988.

Teaching experience

Courses

- 2020 & 2021:** *Une histoire d'hydrogène neutre* (A History of Neutral Hydrogen)
Université Ouverte de l'Université de Paris, Cycle "Histoire du Cosmos"
- 2010:** *Les bases de la radio astronomie* (Introduction to Radio Astronomy)
Université d'Orléans, Master *Electronique, Signal, Microsystèmes*
- 2004:** The Arecibo L-Band Feed Array
one of multiple lecturers for Cornell University course A620 (Masters level)

Summer Schools

- 2018:** Measuring the Cosmic Microwave Background
"Teaching the Universe" Athens, Greece
- 2015:**
 1. EMBRACE System Overview and Observational Highlights
 2. How to launch an EMBRACE observation
 3. How to look at EMBRACE statistics data
 4. Pulsar observations with EMBRACE
 5. How to write a python script for observing with EMBRACE
 6. How to setup a long term observational programme with EMBRACE
 EMBRACE Workshop at Nançay, 7-11 September, 2016
- 2014:** Radio Interferometry and the Square Kilometre Array
European Project INFIERI Summer School, held at Université de Paris-Diderot
- 2009:** The Driving Questions: Scientific Motivation for the Square Kilometre Array
European "Marie-Curie" Summer School held at Observatoire de Paris
- 2009:** Scientific Motivation and Multibeam Science
European "Marie-Curie" Summer School held at Oxford University
- 2008:** Scientific Motivation for Deep Field Imaging with the Square Kilometre Array
European "Marie-Curie" Summer School held at Cambridge University
- 2007:**
 1. History of Radio Astronomy
 2. The Square Kilometre Array and SKADS
 3. *Sur les traces de l'énergie sombre et de la masse manquante dans l'univers*
(Hunting for Dark Energy and the Missing Mass in the Universe)
Summer School on Radioastronomy, *Ecole CNRS de Goutelas XXX*

Student Projects

- 2023 - 2026:** Thesis co-supervisor for Tom Laclavère (PhD expected October 2026)
- 2021 - 2024:** Thesis co-supervisor for Mathias Régnier (PhD expected October 2024)
- 2017 - present:** QUBIC data analysis, Masters internships
- 2017 - present:** "Penzias & Wilson from Paris"
Student project to measure the Cosmic Microwave Background (Prof. Michel Piat)
- 2017 - 2021:** Thesis co-supervisor for Louise Mousset (PhD 2021, Université Paris Diderot)
- 2016:** Low Frequency Molecular Transitions in the Foreground of Cosmology Surveys
Masters internship, joint programme between Imperial College London and Université de Strasbourg
- 2014:** Square Kilometre Array prototype EMBRACE
pre-engineering school internship
- 2012:** Square Kilometre Array prototype EMBRACE
pre-engineering school internship
- 2004:** Carbon Monoxide at High Redshift with the Arecibo radio telescope
Cornell University "Research Experience for Undergraduates"

Publications – Book Editor

R. Strom, A. van Ardenne, and **Torchinsky, S.A.**(eds), “50 Years Westerbork Radio Observatory: A Continuing Journey to Discovery and Innovation,” 2018, ASTRON

Torchinsky, S.A., A. van Ardenne, T. van den Brink, A. van Es, and A.J. Faulkner (eds), 2009, “Wide Field Science and Technology for the SKA,” PoS(SKADS-2009), ISBN 978-90-805434-5-4

Torchinsky, S.A.(ed.) “Proceedings of Simulations for the Square Kilometre Array, Pushchino, Russia 30 July - 1 August 2007,” December 2007

Publications – General Audience

Torchinsky, S.A., “St Augustin et le Big Bang,” (St. Augustine and the Big Bang) 2014, Bulletin Interne de l’Observatoire de Paris

Torchinsky, S.A., “En attendant SKA ...” (Preparing for SKA...) 2012, CNRS Microscop, No. 65

Torchinsky, S.A., “En attendant SKA, un prototype prometteur à Nançay, EMBRACE,” (Preparing for SKA: A Promising Prototype at Nançay) 2012, L’Astronomie, No, 46

Torchinsky, S.A. & Wim van Driel, “Révéler l’invisible par les ondes radio” (Unveiling the Invisible with Radio Waves), *Dossier Pour La Science*, #56, juillet, 2007

Publications – Refereed

Mennella, A., Ade, P., and 112 colleagues including **Torchinsky, S.A.**, 2024, “Measuring the CMB primordial B-modes with Bolometric Interferometry. Status and future prospects of the QUBIC experiment”, mm Universe 2023 - Observing the Universe at mm Wavelengths, Grenoble, France, Edited by Mayet, F.; Catalano, A.; Macías-Pérez, J.F.; Perotto, L.; EPJ Web of Conferences, Volume 293, id.00030

Manzan, E., Regnier, M., and 18 colleagues including **Torchinsky, S.A.**, 2024, “The advantage of Bolometric Interferometry for controlling Galactic foreground contamination in CMB primordial B-modes measurements”, mm Universe 2023 - Observing the Universe at mm Wavelengths, Grenoble, France, Edited by Mayet, F.; Catalano, A.; Macías-Pérez, J.F.; Perotto, L.; EPJ Web of Conferences, Volume 293, id.00029

Regnier, M., Manzan, E., and 22 colleagues including **Torchinsky, S.A.**, 2023, “Identifying frequency decorrelated dust residuals in B-mode maps by exploiting the spectral capability of bolometric interferometry”, eprint arXiv:2309.02957

D’Alessandro. G., and 128 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC Experiment Toward the First Light”, 2022 J. Low Temperature Physics, 209, 839D

Piat, M., and 128 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC: the Q and U bolometric interferometer for cosmology ”, 2022 Proc. SPIE, Vol. 12190, id. 121902T

Hamilton, J. -Ch., Mousset, L., and 128 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC I: Overview and Science Program”, 2022, J. Cosmology & Astroparticle Phys. 04, 034H

Mousset, L., Gamboa Lerena, M. M., and 129 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC II: Spectro-Polarimetry with Bolometric Interferometry”, 2022, J. Cosmology & Astroparticle Phys. 04, 035M

Torchinsky, S.A., Hamilton, J. -Ch., and 126 colleagues, 2022, “QUBIC III: Laboratory Characterization”, 2022, J. Cosmology & Astroparticle Phys. 04, 036T

Piat, M., Stankowiak, G., and 127 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC IV: Performance of TES Bolometers and Readout Electronics”, 2022, J. Cosmology & Astroparticle Phys. 04, 037P

Publications – Refereed (cont'd)

Masi, S., Battistelli, E. S., and 127 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC V: Cryogenic system design and performance”, 2022, *J. Cosmology & Astroparticle Phys.* 04, 038M

D’Alessandro, G., Mele, L., and 127 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC VI: cryogenic half wave plate rotator, design and performances”, 2022, *J. Cosmology & Astroparticle Phys.* 04, 039D

Cavaliere, F., Mennella, A., and 129 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC VII: The feedhorn-switch system of the technological demonstrator”, 2022, *J. Cosmology & Astroparticle Phys.* 04, 040C

O’Sullivan, C., De Petris, M., and 127 colleagues including **Torchinsky, S.A.**, 2022, “QUBIC VIII: Optical design and performance”, 2022, *J. Cosmology & Astroparticle Phys.* 04, 041O

Scóccola, C. G., and 127 colleagues including **Torchinsky, S.A.**, 2021, “Current status of the QUBIC experiment”, *Boletín de la Asociación Argentina de Astronomía*, vol. 62, pg. 177S

Gamboa Lerena, M. M., Scóccola, C. G., and 128 colleagues including **Torchinsky, S.A.**, 2020, “Angular resolution at map level in the QUBIC instrument”, *Boletín de la Asociación Argentina de Astronomía*, vol. 61B, p.155-158

Mele, L., Ade, P., and 125 colleagues including **Torchinsky, S.A.**, 2020, “The QUBIC instrument for CMB polarization measurements”, *Journal of Physics: Conference Series*, Volume 1548, Issue 1, article id. 012016 (2020).

R. Ansari and 16 co-authors including **Torchinsky, S.A.**, “Design, operation and performance of the PAON4 prototype transit interferometer” 2020, *MNRAS*, 493, 2965

E.S. Battistelli and 138 co-authors including **Torchinsky, S.A.**, “QUBIC: The Q & U Bolometric Interferometer for Cosmology” 2020, *J. Low Temp. Phys.*, 199, 482

S. Marnieros and 138 co-authors including **Torchinsky, S.A.**, “TES Bolometer Arrays for the QUBIC B-Mode CMB Experiment” 2020, *J. Low Temp. Phys.*

M. Piat and 138 co-authors including **Torchinsky, S.A.**, “QUBIC: using NbSi TESs with a bolometric interferometer to characterize the polarisation of the CMB” 2020, *J. Low Temp. Phys.*

A. Mennella and 128 co-authors including **Torchinsky, S.A.**, “QUBIC: Exploring the Primordial Universe with the Q&U Bolometric Interferometer” 2019, *Universe*, vol. 5, issue 2, p. 42

P. de Bernardis and 129 co-authors including **Torchinsky, S.A.**, “QUBIC: Measuring CMB polarization from Argentina,” 2018, *BAAA*, 60, 107B

M. Salatino and 131 co-authors including **Torchinsky, S.A.**, “Performance of NbSi transition-edge sensors readout with a 128 MUX factor for the QUBIC experiment,” 2018, *SPIE*, 10708E, 45S

A. May and 129 co-authors including **Torchinsky, S.A.**, “Thermal architecture for the QUBIC cryogenic receiver,” 2018, *SPIE*, 10708E, 3VM

S. Das and 46 co-authors including **Torchinsky, S.A.**, “Progress in the construction and testing of the Tianlai radio interferometers,” 2018, *SPIE*, 10708E, 36D

C. O’Sullivan and 130 co-authors including **Torchinsky, S.A.**, “Simulations and performance of the QUBIC optical beam combiner,” 2018, *Proc. SPIE*, 10708, 16

C. O’Sullivan and 129 co-authors including **Torchinsky, S.A.**, “QUBIC: the Q and U bolometric interferometer for cosmology,” 2018, *SPIE*, 10708E, 2BO

D. Burke and 133 co-authors including **Torchinsky, S.A.**, “Optical modelling and analysis of the Q and U bolometric interferometer for cosmology,” 2018, *Proc. SPIE*, 10531, 14

Publications – Refereed (cont'd)

A. Mennella and 101 co-authors including **Torchinsky, S.A.**, “QUBIC - The Q&U Bolometric Interferometer for Cosmology – A novel way to look at the polarized Cosmic Microwave Background,” 2018, Proc. of Science, 314, 44

A.O.H. Olofsson, L. Bouscasse, **Torchinsky, S.A.**, “Observation of the $2_{1,1} - 2_{1,2}$ transition of methanol at 2502.8 MHz in Sgr B2,” 2017, Research Notes of the AAS, 1, 46O

Torchinsky, S.A., A.O.H. Olofsson, B. Censier, A. Karastergiou, M. Serylak, P. Picard, P. Renaud, C. Taffoureau, “Characterization of a dense aperture array for radio astronomy,” 2016, A&A, 589, A77

Torchinsky, S.A., A.O.H. Olofsson, B. Censier, A. Karastergiou, M. Serylak, P. Renaud, C. Taffoureau, “EMBRACE@Nançay: An Ultra Wide Field of View Prototype for the SKA,” 2015, JINST, Vol. 10, No. 7, article id. C07002

S. Bosse, S. Barth, **Torchinsky, S.A.**, B. da Silva, “BeamFormer ASIC in UHF-L band for the Square Kilometer Array international project,” 2010, Proceedings of the 40th European Microwave Conference, Paris, France

B. Larsson, R. Liseau, L. Pagani, and 55 co-authors including **Torchinsky, S.A.** “The Discovery of Molecular Oxygen in the Interstellar Medium. O_2 Observed with Odin in the rho Ophiuchi Cloud” *Astronomy & Astrophysics*, 466, 999-1003 (2007),

A. Lecacheux, N. Biver, J. Crovisier, and 19 co-authors including **Torchinsky, S.A.** “Observations of water in comets with Odin” *Astronomy & Astrophysics*, v.402, p.L55-L58 (2003)

Å. Hjalmarson, U. Frisk, M. Olberg, and 55 co-authors including **Torchinsky, S.A.** “Highlights from the first year of Odin observations”, *Astronomy & Astrophysics*, v.402, p.L39-L46 (2003)

M. Olberg, U. Frisk, A. Lecacheux, and 13 co-authors including **Torchinsky, S.A.** “The Odin satellite II: Data processing and calibration” *Astronomy & Astrophysics*, v.402, p.L35-L38 (2003)

U. Frisk, M. Hagström, J. Ala-Laurinaho, and 48 co-authors including **Torchinsky, S.A.** “The Odin satellite I: Radiometer design and test” *Astronomy & Astrophysics*, v.402, p.L27-L34 (2003)

W. Wild, J. Payne, V. Belitsky, and 11 co-authors including **Torchinsky, S.A.**, “Receivers for ALMA: Preliminary Design Concepts”, Proceedings of SPIE, vol. 4015, “Radio Telescopes”, March 27-30, 2000, Munich, pp.320-327.

N.D. Whyborn, Th. de Graauw, H. van de Stadt, V. Belitsky, R. Kruisinga, **Torchinsky, S.A.**, H. Visser, K. Wildeman, “The Focal Plane Unit of the Heterodyne Instrument for FIRST: HIFI”, Proceedings of the Ninth International Symposium on Space Terahertz Technology, March 17-19, 1998, p.453-462

M.W. de Graauw, N.D. Whyborn, H. van de Stadt, and 38 co-authors including **Torchinsky, S.A.** “Heterodyne instrument for FIRST (HIFI): preliminary design” in *Advanced Technology MMW, Radio, and Terahertz Telescopes SPIE Proceedings Vol. 3357* Editor(s): Thomas G. Phillips, California Institute of Technology, Pasadena, CA, USA. ISBN:0-8194-2804-3, 1998, pp.336-347

Torchinsky, S.A., “Analysis of a Conical Horn Fed by a Slightly Oversized Waveguide,” *Int. J. Infrared and Millimeter Waves*, vol. 11, pp. 791-808, July 1990

Mousset, L., and 110 colleagues including **Torchinsky, S.A.**, 2022, “Status of QUBIC, the Q&U Bolometer for Cosmology”, 33rd Rencontres de Blois, October 2022, arXiv:2210.03161

Gunst, A. W., Faulkner, A. J., and 4 colleagues including **Torchinsky, S.A.**, 2020, “Mid Frequency Aperture Array Architectural Design Document”, eprint arXiv:2008.04583

Publications – Proceedings and Project Documents

Torchinsky, S.A. et al., “QUBIC - The Q & U Bolometric Interferometer for Cosmology” 2019, URSI, Journées Scientifiques 2019

C. Ferrari and 100 co-authors including **Torchinsky, S.A.**, “The SKA France White Book,” 2017, arXiv:1712.06950

W. van Cappellen, and 17 co-authors including **Torchinsky, S.A.**, “MANTIS: The Mid-Frequency Aperture Array Transient and Intensity-Mapping System,” 2016, arXiv:1612.07917

Torchinsky, S.A., J.W. Broderick, A. Gunst, A.J. Faulkner, W. van Cappellen, “SKA Aperture Array Mid Frequency Science Requirements”, 2016, SKA-TEL-MFAA-0200009, arXiv:1610.00683

J.G. bij de Vaate, **Torchinsky, S.A.**, A.J. Faulkner, Y. Zhang, A. Gunst, P. Benthem, I.M. van Bemmelen, G. Kenfack, “SKA Mid Frequency Aperture Arrays: Technology for the Ultimate Survey Machine” in Proc. URSI General Assembly Beijing, China, 16-23 August, 2014

J.G. bij de Vaate, P. Benthem, R. Witvers, R. van den Brink, Y. Zhang, **Torchinsky, S.A.**, “Mid Frequency Aperture Array Technology Developments for the SKA”, in Proc. Antenna Technology and Applied Electromagnetics (ANTEM), Victoria, Canada, 13-16 July 2014

Torchinsky, S.A., A.O.H. Olofsson, A. Karastergiou, B. Censier, M. Serylak, P. Renaud, C. Taffoureau, “Characterization and Initial Results with EMBRACE,” 2013, Proc. Société française de l’astronomie et de l’astrophysique, 4-7 June, Montpellier

R. Weber, G. Hellbourg, C. Dumez-Viou, A.J. Boonstra, **Torchinsky, S.A.**, C. Capdessus, K. Abed-Meraim “RFI Mitigation in Radio Astronomy: an Overview,” 2013, Journée Scientifique d’URSI, 26-27 March, Paris

C. Taffoureau, P. Renaud, P. Picard, J. Borsenberger, **Torchinsky, S.A.**, A.O.H. Olofsson, F. Viallefond, “Monitoring and Control of EMBRACE, a 4608 Elements Phased Array for Radio Astronomy,” 2011, Proceedings Astronomical Data Analysis Software Systems, Paris, 6-10 November, 2011

Torchinsky, S.A., “Highlights of Radioastronomy from 1800 to 2007 (a personal selection),” 2011, Proceedings Radioastronomie Basses Fréquences Ecole CNRS de Goutelas XXX (2007) P. Zarka, M. Tagger (eds)

Torchinsky, S.A., “The Square Kilometre Array and SKADS,” 2011, Proceedings Radioastronomie Basses Fréquences Ecole CNRS de Goutelas XXX (2007) P. Zarka, M. Tagger (eds)

A.J. Faulkner, and 13 co-authors including **Torchinsky, S.A.**, “Aperture Arrays for the SKA: The SKADS White Paper,” 2010, International SKA Memo #122,

Torchinsky, S.A., and 17 co-authors, “Final Astronomical Test Report for EMBRACE,” SKADS Deliverable, DS5-101, 22 February 2010

Torchinsky, S.A., “The Questions that Drive the Specifications”, 2009 *Proc. Wide Field Science and Technology for the SKA*, Limelette, Belgium, **Torchinsky, S.A.**, et al. (eds), PoS(SKADS 2009)004

A.O.H. Olofsson, **Torchinsky, S.A.**, and 14 co-authors, “Profiling the EMBRACE tile beam using GPS satellite carriers”, 2009 *Proc. Wide Field Science and Technology for the SKA*, Limelette, Belgium, **Torchinsky, S.A.**, et al. (eds), PoS(SKADS 2009)042

S.J. Wijnholds and 8 co-authors including **Torchinsky, S.A.**, “EMBRACE: First Experimental Results with the Initial 10% of a 10,000 Element Phased Array Radio Telescope”, 2009 *Proc. Wide Field Science and Technology for the SKA*, Limelette, Belgium, **Torchinsky, S.A.**, et al. (eds), PoS(SKADS 2009)043

R.C. Bolton, A.J. Faulkner, P. Alexander, **Torchinsky, S.A.**, and 13 co-authors, “Design of an Aperture Phased Array System for the SKA” International SKA Memo 111, July 2009

Publications – Proceedings and Project Documents (cont'd)

S. Bosse, M.-L. Grima, G. Kenfack, and 18 co-authors including **Torchinsky, S.A.**, “R&D at Nançay for Radio Astronomy Detectors and Systems” Astrophysics Detector Workshop 2008 P. Kern (ed) EAS Publications Series, 37 (2009) 127-134

Torchinsky, S.A., A.O.H. Olofsson, L. Chemin, R. Strom, and 13 co-authors, “EMBRACE System Engineering and Astronomical Test Plan,” SKADS Deliverable DS5T3.2, 4 June 2008

A.J. Faulkner, P. Alexander, M.E. Jones, R.C. Bolton, A. van Ardenne, **Torchinsky, S.A.**, “Design of an Aperture Phased Array System for the SKA”, *Proc. 2008 URSI General Assembly, Chicago, 10-16 August, 2008*

Torchinsky, S.A. & SKADS, “Probing Dark Energy with the Square Kilometre Array”, *Proc. 19th Rencontres de Blois 20-25 May 2007*, L. Celnikier, J.T. Thanh Van eds., January, 2008

Torchinsky, S.A., “SKADS: The Square Kilometre Array Design Studies”, *Proc. Simulations for the Square Kilometre Array, Pushchino, Russia 30 July - 1 August 2007*, **Torchinsky, S.A.**, ed., December 2007

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