Europass Curriculum Vitae

Personal information

Surname(s) / First name(s)	**D'Alessandro Giuseppe**

Education and title

Title	PhD in ASTRONOMY
University	University La Sapienza in Rome
Date	12/01/2015
Thesis title	Instrumentation development for spectroscopic observation of the Cosmic Microwave Background
Supervisor	Paolo de Bernardis
Topic	Sperimental cosmology, spectroscopy, millimetric wavelenghts
Title (2)	Graduation in ASTRONOMY ED ASTROPHYSICS
University	University La Sapienza in Rome
Date	29/10/2011
Votazione	110/110 with honors
Thesis title	Spectroscopy in the millimetric continuums and Cosmology
Supervisor	Paolo de Bernardis, Alessandro Schillaci
Topic	Sperimental cosmology, spectroscopy, millimetric wavelenghts

Languages knowledge

Mother tongue(s): **Italian**

Other languages: English

Self-assessment *European level*(*)	**Understanding**		**Speaking**		**Writing**
	Listening	Reading	Spoken interaction	Spoken production	
English	B1 Independent user	B1 Independent user	B1 Independent user	B1 Independent user	B1 Independent user

(*) *Common European Framework of Reference (CEF) level*

Informatics knowledge

OS	Windows
	Mac OS
	Linux (Ubuntu)
Office package	Word, Excel, PowerPoint, Publisher
Circuit design	Pspice, DesignSpark
Data analysis	IDL, Origin
3D design	SolidWorks, I-DEAS
Physic simulation	Comsol Multiphysics, ANSIS

Optic design	Zemax
Programming language and environment	C,R, MikroC, Fortran, GPGPU programming with CUDA, Python, IDL, MathLab, LabView, LaTex.
Developing board for science application	Raspberry Pi, Arduino, UDOO

Professional experiences

Date	28/10/2017 ->
Current position	Postdoc on Physics department at University of Rome La Sapienza
Main activities	Design and test of Cryostat and Half Wave Plate for QUBIC experiment. Design and test of Cryostat and Half Wave Plate for LSPE: SWIPE experiment
	Design, implementation and calibration of a Fourier Trasform Spectrometer as a plug-in for OLIMPO ballon born experiment.
	Design of fast stars tracker for LSPE experiment
	Feasibility study for implementation of a Fourier Trasform Spectrometer as a plug-in for the APEX telescope.
	Design and implementation of fly electronic for OLIMPO DFTS.
	Design and implementation of spectral hygrometer for Site-testing measurement. Used for *Precipitabile Water Vapour* measurement during Antartic summer and winter.
	Design and implementation of black body calibrator for common mode rejection measurement
	Partecipation in the PRIN 2009 project: "Millimetric and sub millimetric spectroscopy for high resolution studies of primordial galaxies and galaxy clusters" by Prof. Paolo de Bernardis
	Partecipation in the PRIN 2012 project: "A W band detectors array for spectroscopic measurement at the Sardinia Radio Telescope" by Prof. Paolo de Bernardis

Experiment collaboration

Collaborator of the QUBIC experiment

Collaborator of the LSPE experiment

Collaborator of the PRISM experiment

Collaborator of the CORE+ experiment

Collaborator of the MILLIMETRON experiment

Collaborator of the OLIMPO experiment

Teaching experience

2017	Mathematics pre-course teacher for first year students
2017	Master degree co-relator for Silvio Di Tano; prob. degree date: 01/2018
2017	Master degree co-relator for Lorenzo Mele; prob. degree date: 01/2018
2016	Mathematics pre-course teacher for first year students
	Astrophysics Laboratory tutor
2015	Mathematics pre-course teacher for first year students
	Astrophysics Laboratory tutor
2014	Astrophysics Laboratory tutor
2013	Mathematics pre-course teacher for first year students
	Astrophysics Laboratory tutor
2012	Astrophysics Laboratory tutor

Awards

2017 ->	Winner of a competition for Postdoc position for one year issued by the Physics department at the University La Sapienza in Rome on LSPE polarization rotator and OLIMPO spectrometer
2016 ->	Winner of a competition for *research-startup funds* issued by the University La Sapienza in Rome
2016 ->	Winner of a competition for Postdoc position for one year issued by the Physics department at the University La Sapienza in Rome on balloon experiment
2015 ->	Winning of the competition for the mathematics pre-course teacher for first year students
2015 ->	Winner of a competition for Postdoc position for one year issued by the Physics department at the University La Sapienza in Rome on QUBIC experiment
2014 ->	Winner of a competition for *research-startup funds* issued by the University La Sapienza in Rome
2013 ->	Winner of a competition for *research-startup funds* issued by the University La Sapienza in Rome
2013 ->	Winning of the competition for the mathematics pre-course teacher for first year students
2012 ->	Winner of the scholarship:"Simulation for the optimization of differential spectrometer of Millimetron experiment" issued by INAF-OAR Observatory of Rome Monte Porzio Catone
2011 ->	Winner of a competition for the Astronomy PhD studentship.
2010 ->	Winner of a scholarship *Paths of excellence* issued by Science faculty of University La Sapienza in Rome for meritorius student.

Papers

Polarizing beam-splitter rotation in Martin-Puplett interferometers for spectroscopic measurements at millimeter wavelengths; Infrared Physics and Technology Vol.85, pp 92-98 (2017)

Exploring Cosmic Origins with CORE: Cosmological parameters; accepted to JCAP (2017)

Exploring Cosmic Origins with CORE: Inflation ;accepted to JCAP (2017)

Exploring Cosmic Origins with CORE: B-mode Component Separation; accepted to JCAP (2017)

Exploring Cosmic Origins with CORE: effects of observer peculiar motion; accepted to JCAP (2017)

Exploring Cosmic Origins with CORE:The Instrument; submitted to JCAP (2017)

Exploring Cosmic Origins with CORE: Cluster Science; acceptedt to JCAP (2017)

Exploring Cosmic Origins with CORE:Survey requirements and mission design; submittet to JCAP (2017)

QUBIC: A Fizeau Interferometer Targeting Primordial B-Modes; J Low Temp Phys; pp 1,7 (2016)

Common-mode rejection in Martin-Puplett spectrometers for astronomical observations at mm-wavelengths; Applied Optic Vol.54, Issue 31, pp 9269-9276 (2015)

A Lossless Differential Fourier-Transform Spectrometer for precision Sunyaev-Zel'dovich effect measurements, A & A 565, A125 (2014)

The Polarized Radiation Imaging and Spectroscopy Mission, The Prism Collaboration, January 2014 JPAC)

PRISM (Polarized Radiation Imaging and Spectroscopy Mission): A White Paper on the Ultimate Polarimetric Spectro-Imaging of the Microwave and Far-Infrared Sky, arxiv 1306.2259, The PRISM Collaboration

On the emissivity of wire-grid polarizer for astronomical observation at mm-wavelengths, Infrared Physics and Technology, 2012 Volume 58 P.64-68

Low-resolution Sunyaev-Zeldovich spectroscopy and estimates of cluster parameters, A & A 538, A86 (2012)

A new Data Logger based on Raspberry-Pi for Arctic Notostraca Locomotion Investigations, Pasquali et al., Measurements 110,249-256 (2017)

Monitoring and Analyzing of Circadian and Ultradian Locomotor Activity Based on Raspberry-Pi, Pasquali et.al, Electronics (2016)

Ultra High Molecular Weight Polyethylene: optical features at millimeter wavelengths, D'Alessandro et.al, submitted to Infrared Physics and Technology (2017)

Conference proceedings

Optical design and modelling of the QUBIC instrument, a next-generation quasi-optical bolometric interferometer for cosmology, Proc. SPIE 9914, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VII, 99143N (July 19, 2016);10.1117/12.2231717

Development of instrumentation for differential spectroscopic measurements at millimeter wavelengths, Proc. SPIE 9914, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VII, 99143N (July 19, 2016); doi:10.1117/12.2238504

SWIPE: a bolometric polarimeter for the Large-Scale Polarization Explorer, arxiv 1208.0282, proceedings of the Astronomical Telescopes + Instrumentation 2012 Conference - Ground-based and Airborne Instrumentation for Astronomy IV, Amsterdam 1-6

The Large-Scale Polarization Explorer (LSPE), arxiv 1208.0281, proceedings of the Astronomical Telescopes + Instrumentation 2012 Conference - Ground-based and Airborne Instrumentation for Astronomy IV, Amsterdam 1-6

Posters, talks

Talk: Instrumentation development for spectroscopic observation of the Cosmic Microwave Background 20 March 2016, Rencontres de Moriond Cosmology session, La Thuile (Italy), D'Alessandro G.

Poster: Site testing at dome C for millimetric Astronomy, Siena 2013 AAA2013: Second workshop of the SCAR AAA Scientific research Program, 24-26 July 2013, Certosa di Pontignano, Siena, Italy, http://www.astronomy.scar.org/AAA2013/, (Puddu et al.)

Poster: A differential Fourier-Trasform Spectrometer for Olimpo, Santander 2011 A new era for SZ science, Santander Spain June 27-30 2011.(Schillaci et al.)

Poster: Olimpo: an update, Santander 2011A new era for SZ science, Santander Spain June 27-30 2011.(Masi et al.)

Poster: A 4-bands detectors array for ballon-borne observations of the Sunyaev-Zeldovich effect,Varenna 2013 Italian Physical Society International School of Physics "Enrico Fermi" New Horizons for Observational Cosmology June 30 - July 6 2013,(Coppolecchia et al.)

In preparation

A simple and reliable spectral hygrometer for day-time and night-time measurements of precipitable water vapour, (D'Alessandro et al.)

Educational Publications

La cosmologia fra terra e spazio, Quaderni di Scienza e Scienziati Molisani (Agosto 2015)