REPORT ON THE RADIONET3 NETWORKING ACTIVITY

TITLE: EWASS 2012 SYMPOSIUM "THE GALACTIC PLANE RELOADED: A BRAND NEW MULTIWAVELENGTH MILKY WAY FROM TEV TO MHZ"

Symposium part of the European Week of Astronomy and Space Science

DATE: *5-6 JULY 2012* **TIME:** *WHOLE DAY*

LOCATION: *ROME, ITALY*

MEETING WEBPAGE *http://herschel.ifsi-roma.inaf.it/mwgp/*

HOST INSTITUTE: *PONTIFICIA UNIVERSITA` LATERANENSE*

PARTICIPANTS NO: *71*

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REPORT:

1. Agenda and/or programme of the meeting

Start	Speaker	Title
		July 5
11:00	E. de Ona Wilhelmiv (D)	Galactic Plane Surveys at VHE
11:30	A. Chen (I)	The Gamma-ray View of the Galaxy with AGILE
12:00	M. Fiocchi (I)	Integral news on the Galactic Plane
12:15	A. Antonelli (I)	The VHE view of the Galaxy: the CTA perspective
12:30	A. Miroshnichenko (UKR)	The kpc-scale features of the Milky Way as jet structures
12:45	R. Kurtev (CHL)	New results on the Milky Way from optical/near-IR surveys
		Lunch
14:30	A. Noriega-Crespo (USA)	The Astronomical Zoo of the Galactic Plane in the mid-far Infrared
14:55	J. Rodriguez (F)	Follow-up observations of INTEGRAL sources: an X-ray focus on new Galactic plane sources
15:15	N. Kaltcheva (USA)	OB-stars – ISM correlation for several Galactic star-forming fields
15:30	G. Barentsen (UK)	Bayesian inference of T Tauri star properties using multi-wavelength survey photometry
15:45	A. Robin (F)	Constraints on the populations in the inner Galaxy: Disc, bulge and bar
		Coffee Break
16:30	B. Benjamin (USA)	How to Map the Milky Way
17:00	K. Rygl (I)	The BESSEL project: Galactic structure from parallax measurements of masers in star-forming regions
17:15	W. Langer (USA)	Density Wave Compression of the WIM in Spiral Arms: Studies with spectrally resolved [CII] emission at spiral tangencies
17:30	S. Chakrabarti (USA)	A New Milky Way Satellite?
18:00	Discussion	Present and Future of Galactic Plane Surveys
		July 6
11:00	M. Pestalozzi (I)	The view of the Milky Way in the Herschel era
11:30	D. Elia (I)	A Herschel first look at star formation in the third Galactic quadrant
11:45	M. Veneziani (USA)	First estimates of the Milky Way Star Formation Rate from the Hi-GAL Survey
12:00	N. Peretto (F)	The origin of star formation laws in the Galaxy
12:15	L. Testi (ESO)	Star Formation on a Galactic scale
12:30	A. Traficante (UK)	A catalogue of protostellar core candidates embedded in infrared dark clouds

12:45	R. Norris (AUS)	The next-generation EMU radio survey of the sky
	Lunch	
14:00	D. Marshall (F)	The evolution of molecular clouds through different Galactic environments with Hi-GAL
14:15	M. Smith (UK)	The feeding and feedback of massive protostars
14:30	G. Joncas (CAN)	Linking atomic and molecular hydrogen from large to small scales
15:00	R. Khotes (CAN)	A Close Look at the Galactic Ecosystem: the Canadian Galactic Plane Survey
15:15	A. Ingallinera (I)	Radio characterization of galactic bubbles
	Coffee Break	
16:00	J.-Ph. Bernard (F)	Galactic Plane in the submillimeter with Planck
16:30	M. Hoare (UK)	The CORNISH Surveys of the Galactic Plane
17:00	R. Paladini (USA)	Hydrogen Radio Recombination Lines: unveiling the ionized gas content of the Galactic Plane
17:30	N. Hurley-Walker (AUS)	The Galactic Plane at 80-300 MHz with the Murchison Widefield Array
17:45	S. Trushkin (RUS)	The radio surveys and monitoring of the microquasars

2. Scientific Summary

The Symposium brought together different Communities active in different topics and different ranges of the electromagnetic spectrum in Galactic Astronomy, to carry out an extensive review of the status of the art in terms of Galactic Plane (GP) surveys from the last generation of ground-based/Space-borne facilities. The main goal was to create synergies and maximize the power of multi-wavelength and multi-mission research to boost knowledge advancement.

The latest results from High-Energy GP surveys were presented (including HESS, AGILE and INTEGRAL), and the importance of multiwavelength follow-up of source discovered by individual surveys was clearly apparent. Examples were X-ray follow-ups of previously unknown sources discovered by INTEGRAL (talks by M.T. Fiocchi and J. Rodriguez). Another important cross-fertilization potential that was recognised between the mapping of the large-scale γ-ray emission revealed by AGILE and HESS from cosmic ray interaction with dense interstellar material, and the new maps of interstellar dust clouds that the Herschel satellite is delivering over the entire GP (see Fig. 1).

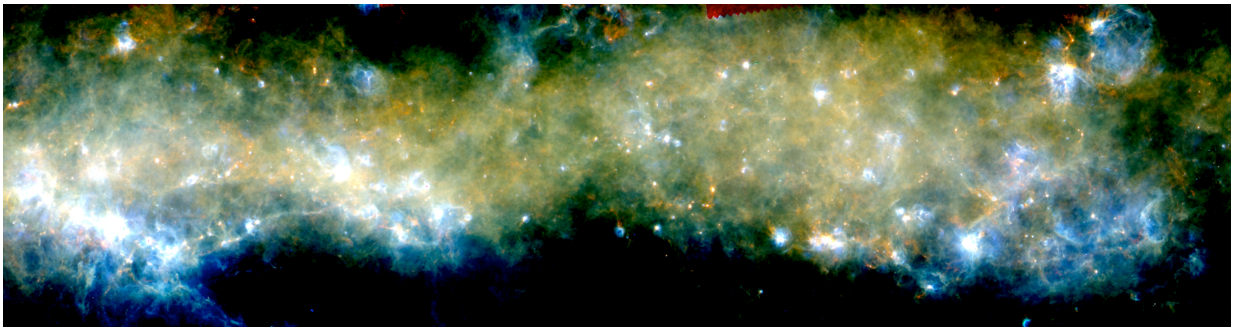


Figure 1. 10°x2° section of the Galactic Plane in the fourth Galactic quadrant imaged by the Herschel satellite as part of the Hi-GAL Key-Project. The color image combines the far infrared continuum at 70μm (blue), 160 μm (green) and 350 μm (yellow-red) to unveil with unprecedented spatial resolution the complex interplay between cold diffuse dust and warm and bright star forming regions.

Considerable attention in the Symposium was devoted to the latest results that are being revealed by the Herschel satellite Hi-GAL survey of the Galactic Plane (Talks by M. Pestalozzi and many others in second day). With its order-of-magnitude improvement in spatial resolution and wavelength coverage in the far infrared with respect to previous missions like IRAS and Spitzer, Herschel is unveiling a completely new view of the Galactic Plane (Fig. 1). Thanks to its superior capabilities to trace cold and warm dust thermal emission at any spatial scale, Herschel is allowing new studies of the life-cycle of dust from the Galaxy-wide structure of the stellar and diffuse Interstellar Medium components, to the formation of dense molecular clouds and filaments and the conditions for the onset of star formation, down to the late stellar evolution (evolved stars and SNRs).

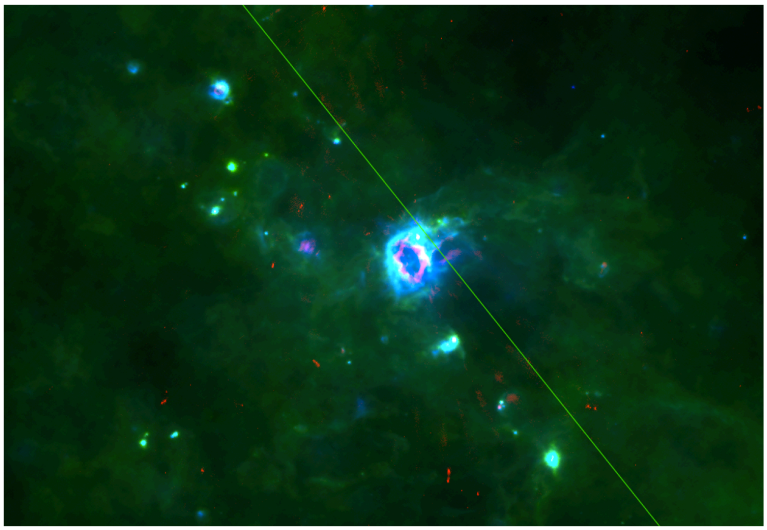


Figure 2. Small chunk of the Galactic Plane showing in red the emission in the radio obtained by the SCORPIO project, superimposed on the Herschel color images (blue 70μm and green 160 μm).

The new spectroscopic and continuum surveys in millimeter and radio wavelength (EVLA, H-RRL) are keeping up with the pace of improvement in terms of sensitivity and spatial resolution, revealing hints of missing barionic matter and exotic dust components. More important perhaps, are the new generation radio surveys that will be carried out in the near future with the SKA pathfinders ASKAP (at 21cm) and MeerKAT (at higher frequencies) to boost the by several orders of magnitude the sensitivity of currently available radio surveys. One of this project is EMU (talk by R. Norris) and a demonstration pathfinder with ATCA (SCORPIO) is being carried out with the first results presented demonstrating the synergy potential between the radio continuum from free-free and synchrotron, and the themal emission from cold and warm dust (Fig. 2).

The Symposium hosted 71 researchers from all around the world; we regard this as an excellent results taking into account the occurrence of at least 4 more Conferences occurring in the same period. As expected the majority of the 71 participants, about 70%, were from Europe; 12% of europeans were from Eastern Europe countries. 10% of the remaining participants were from USA, with the rest equally distributed between Canada, Chile, Australia, China and Japan. The fraction of women participants was about 30%, while the fraction of young researchers and students (PhDs and PostDocs) has been slightly below 30%.

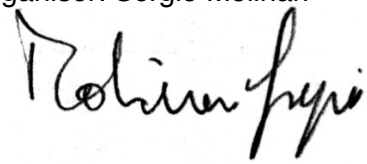
3. Attendance list (incl. participant names, affiliation and country) signed by the participants and confirmed by the organizer

Participant	Institute	Nation
ANGELONI Rodolfo	Univ. Catolica de chile	Chile
ANTONELLI L.Angelo	Inaf Roma	Italy
APPLETON Philip	NASA	USA
BARENTSEN Geert	Armagh Obs	UK
BENEDETTINI Milena	INAF-IAPS	Italy
BENJAMIN Robert	Univ. Of Wisconsin	USA

BERNARD Jean-Philippe	IRAP/CNRS	France
BROWN Anthony	Leiden Observatory	The Netherlands
BUSQUET Gemma	Inaf Roma	Italy
CHEN Andrea	INAF-IASF	Italy
DE MARCHI Giudo	ESA	ESA
DE ONA WILHELMI Emma	Max-Planck ist.	Germany
DI CECCO Alessandra	ASDC/INAF	Italy
ELIA Davide	IAPS-IFSI	Italy
FACCHINI Ada	INAF-IAPS	Italy
FIOCCHI Mariateresa	IAPS/INAF	Italy
FRATERNALI Filippo	Univ. Di Bologna	Italy
FRAUKE Alexander	Univ.-Sternwar Muchen	Germany
GACZKOWSKI Benjamin	Univ. Sternwarte	Germany
GARCIA-LARIO Pedro	HSC-ESAC ESA	ESA
GERIN Maryvonne	LERMA CNRS	France
GIANNETTI Andrea	IRA Bologna	Italy
GIUFFRIDA Giuliano	ASDC/INAF	Italy
HAYAKAWA Takahiro	Nagoya Univ.	Japan
HOARE Melvin	univ.of Leeds	The Netherlands
HURLEY-WALKER Natasha	Curtin Ist.of radio Astr.	Australia
INGALLINERA Adriano	Univ. Di Catania	Italy
JAMROZY Marek	Jagiellonian Univ.	Poland
JONCAS Gilles	Université Laval	Canada
JUETTE Eva	Univ. Bochum	Germany
KALTCHEVA Nadajda	Univ. Of Wisconsin	USA
KHOPERSKOV Sergej	Ist. Of Astron.of the RAS	Russia
KHOURI Theo	Univ. Amsterdam	The Netherlands
KOTHES Roland	Dominion Radio Obs.	Canada
KURTEV Radostin	Universidad de Valparaiso	Chile
LANGER William	JPL Caltech	USA
MARASCO Antonino	Univ.Bologna	Italy
MARSHALL Douglas	IRAP	France
MARTINAVARRO Silvia	Univ.College London	UK
MATSUNAGA Noriyuki	Kiso Obs. Univ. Tokyo	Japan
MATSUURA Mikako	UCL	UK
MIROSHNICHENKO Alla	Ist.of Radio Astr. Ukraine	Ukraine
MOLINARI Diego	Inaf bologna	Italy
MOLINARI Sergio	INAF-IAPS	Italy
MONTUORI Marco	ISC	Italy
NAVARRO Emilio Alfaro	IAA-CSIC	Spain
NORIEGA-CRESPO Alberto	California Ist. Of Tech.	USA
NORRIS Ray	CSIRO	Australia
PALADINI Roberta	California Ist. Of Tech.	USA
PERETTO Nicolas	CEA Saclay	France
PESTALOZZI Michele	IAPS-INAF	Italy
PILBRATT Goran	ESA	ESA
ROBIN Annie	Ist. Utinam	France
RODRIGUEZ Jerome	CEA	France
RYGL Kazi Jessica	IAPS Rome	Italy
SCHMIDT Wolfgang	Kiepenheuer – Inst.	Germany

SMITH Michael	Univ. Of Kent	UK
SORDO Rosanna	Inaf Padova	Italy
TESTI Leonardo	ESO	ESO
TEYSSIER David	ESAC ESA	ESA
TRAFICANTE Alessio	Univ. Of Manchester	UK
TRIFOURKI Sotira	Open Univ.	UK
TRIGILIO Corrado	Inaf Catania	Italy
TRUSHKIN Sergei	RAS	Russia
UMANA Grazia	INAF Catania	Italy
VENEZIANI Marcella	IPAC-Caltech	USA
VERRECCHIA Francesco	ASDC	Italy
VIBE Dmitry	RAS	Russia
ZHU Jiali	NAO, CAS	China
ZINCHENKO Igor	Ras	Russia

Participants list signed by the organiser: Sergio Molinari



4. Financial Report / RadioNet3 contribution

Support from RadioNet3 has been used to support, for a maximum of 250€ each, the expenses for the following PhD students and PostDocs who made a specific request for support:

- Ada Facchini, Italy
- Davide Elia, Italy
- Kazi Rygl, Italy
- Douglas Marshall, France
- Nicolas Peretto, France
- Silvia Martinavarro, UK
- Frauke Alexander, Germany
- Adriano Ingallinera, Italy
- Geert Berentsen, UK
- Benjamin Gaczkowski, Germany
- Michele Pestalozzi. Itsly

Fianancial support for a maximum of 600€ was granted to allow the participation of one Invited Speaker (Gilles Joncas, Canada). Finally a maximum of 800€ were granted to support the participation of Dr. Alla Miroshnichenko from Ukraine who was in dire economic conditions.

5. Conference Proceedings and Web page

The presentations made at the Symposium will be made publicly accessible on the Symposium Web page via clickable links to the presenters names in the agenda. The organisers are collecting now the last presentation from the speakers.

Presentations made at the meeting will be posted on the *RadioNet3* wiki of the Networking Activity when possible: http://www.radionet-eu.org/radionet3wiki/