

Cosmic Rays and their InterStellar Medium environment: CRISM

Montpellier, June 26th-July 1st, 2011

editors: A.Marcowith, A.Bykov, K.Ferrière, T.Montmerle

TABLE OF CONTENTS

<i>Index</i>	687
<i>Foreword</i>	691
<i>List of Participants</i>	693
Session 1: Multiwavelength observations of cosmic ray sources	
G. Dubner <i>Radio observations of Supernova Remnants and the surrounding molecular gas</i>	697
D. Frail <i>Supernova remnant shock - molecular cloud interactions</i>	703
M. Miceli <i>Overionization in X-ray spectra: a new paradigm for mixed-morphology SNRs</i>	709
Y. Gallant <i>(V)HE γ-ray emission from Supernova Remnants</i>	714
T. Montmerle <i>High-energy phenomena in massive star-forming regions and localized acceleration of cosmic rays</i>	720
M. Renaud for the CTA consortium <i>Supernova Remnants and Pulsar Wind Nebula in the Cerenkov Telescope Array era</i>	726
G. Morlino and D.Caprioli <i>Acceleration of cosmic rays in Tycho's SNR</i>	731
I. Reichardt, E. Carmona, J. Krause <i>Probing proton acceleration in W51C with Magic</i>	735

M. Lemoine-Goumard, E. Ferrara, M.H. Grondin, P. Martin, M. Renaud <i>Fermi-LAT detection of gamma-ray emission in the vicinity of the star forming regions W43 and Westerlund2</i>	739
F. Giordano for the Fermi-LAT Collaboration <i>Young SNRs: a new family of High Energy γ-ray emitters</i>	743
F. Giuliani on behalf of the AGILE Team <i>AGILE observations of Middle-aged Supernova Remnants</i>	747
F. Acero, Y. Gallant, R. Terrier, M. Renaud, J. Ballet <i>A new nearby PWN overlapping the Vela Jr SNR</i>	752
J. Mehault <i>Interacting SNRs in gamma-ray astronomy</i>	756
S. Gabici <i>CR escape from SNRs</i>	760
S. Casanova <i>Interacting SNRs in gamma-ray astronomy</i>	766
Y. Fujita, F. Takahara, Y. Ohira, K. Iwasaki <i>Alfvén wave amplification and Self-Containment of Cosmic-Rays Escaping from a Supernova Remnant</i>	770
Session 2: Cosmic ray sources and theory	
J. Puls <i>Winds from massive stars</i>	774
V. Dwarkadas <i>Supernova propagation in Circumstellar and Interstellar medium</i>	781
S. Orlando, F. Bocchino, M. Miceli, O. Petruk, M.L. Pumo <i>Role of ejecta clumping and back-reaction of accelerated cosmic rays in the evolution of supernova remnants</i>	787
N. Prantzos <i>Composition and acceleration of Galactic Cosmic Rays</i>	792
C. Farnier, R. Walter <i>High Energy variability in η Carinae</i>	796
A. Bykov, P.E. Gladilin, S.M. Osipov <i>Particle acceleration at supernova shocks in young stellar clusters</i>	800
E. Amato <i>The streaming instability: a review</i>	806
K. Schure and A.R. Bell <i>Confining the high-energy cosmic rays</i>	812

	689
A. Beresnyak <i>Magnetic turbulence in the shock precursor and cosmic ray acceleration</i>	816
B. Arbutina, D. Urovsević, M. Andjelić, M. Pavlović <i>Equipartition calculation for supernova remnants</i>	822
Session 3: Interstellar medium properties and cosmic rays	
K. Ferrière <i>Interstellar magnetic fields</i>	824
P. Hennebelle <i>Turbulence in the interstellar medium</i>	830
T. W. Hartquist, A.Y Wagner, S.A.E.G. Falle, J.M. Pittard, S. Van Loo <i>Cosmic rays and radiative instabilities</i>	836
Session 4: Cosmic ray direct observations	
L. Derome <i>Direct detection of Cosmic rays</i>	842
R. Iuppa <i>Detection of anisotropies in the arrival directions of 600 GeV-10 TeV cosmic rays with ARGO-YBJ experiment</i>	848
Session 5: Cosmic ray transport and diffuse emission	
H. Fichtner, F. Effenberger, K. Scherer, I. Büsching, R.D. Strauss, S.E.S. Ferreira, M.S. Potgieter, H.-J. Fahr, B. Heber <i>Cosmic Ray Transport in the Heliosphere and its connection to the Interstellar Proton Spectrum</i>	852
V. Ptuskin <i>Cosmic Ray Propagation in the interstellar medium</i>	858
A. Putze, B. Coste, L. Derome, F. Donato, D. Maurin <i>A Markov Chain Monte Carlo technique to sample transport and source parameters of Galactic Cosmic Rays</i>	863
F. Effenberger, H. Fichtner, I. Büsching, A. Kopp, K. Scherer <i>The long-term azimuthal structure of the Galactic Cosmic Ray Proton Distribution due to anisotropic diffusion</i>	867
J. Pety, H.S. Liszt, R. Lucas <i>Bright ^{12}CO emission traces</i>	872
P. Mertsch and S. Sarkar <i>Fermi γ-ray 'bubbles' from stochastic acceleration of electrons</i>	876
T. Delahaye, A. Fiasson, M. Pohl, P. Salati <i>Galactic gamma-ray diffuse emission</i>	880

J. Lavalley		
	<i>Towards models of Galactic cosmic-ray e^\pm</i>	884
P. Martin and K. Bechtol		
	<i>Gamma-ray emission from cosmic rays and interstellar medium interactions in star-forming galaxies</i>	888
Session 6: Low energy cosmic ray effects		
E. Bayet, T.W. Hartquist, D.A. Williams, S. Viti, T. Bell, P. Papadopoulos		
	<i>How do cosmic rays influence the chemistry in star-forming regions</i>	893
E. Rollinde, E. Vangioni		
	<i>Cosmological cosmic ray production of LiBeB and PopIII stars</i>	897
V. Tatischeff and J. Kiener		
	<i>Nuclear interactions of low-energy cosmic rays with the interstellar medium</i>	903
J. David, A. Boudard, J. Cugnon, A. Kelić-Heil, S. Leray, D. Mancusi, M.V. Ricciardi		
	<i>Spallation modeling what's new on nuclei production with INCL4.5-Abla07?</i>	909
E. Herbst		
	<i>Cosmic-ray ionization and chemistry theory</i>	913
C. Cecarelli		
	<i>Cosmic-Ray ionization and chemistry: observations</i>	919
F. Lepetit		
	<i>The influence of cosmic rays in PDR models applied to diffuse clouds</i>	925
A. Faure		
	<i>Electron fraction and excitation of interstellar HCO^+</i>	929
P. Rimmer and E. Herbst		
	<i>Propagation of low-energy cosmic rays in molecular clouds: calculations in two dimensions</i>	933
I. Usoskin		
	<i>Cosmic rays and climate forcing</i>	937