

SuGAR Workshop 2015

Searching for the Sources of Galactic Cosmic Rays

EPJ Web of Conferences Volume 105 (2015)

Geneva, Switzerland
21 - 23 January 2015

Editors:

Elisa Prandini
Simona Toscano

ISBN: 978-1-5108-1746-3

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution license:
<http://creativecommons.org/licenses/by/2.0/>

You are free to:

Share – copy and redistribute the material in any medium or format.

Adapt – remix, transform, and build upon the material for any purpose, even commercial.

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. The copyright is retained by the corresponding authors.

Printed by Curran Associates, Inc. (2016)

For additional information, please contact EDP Sciences – Web of Conferences
at the address below.

EDP Sciences – Web of Conferences
17, Avenue du Hoggar
Parc d'Activité de Courtabœuf
BP 112
F-91944 Les Ulis Cedex A
France

Phone: +33 (0) 1 69 18 75 75

Fax: +33 (0) 1 69 28 84 91

contact-edps@webofconferences.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

ONE CENTURY OF COSMIC RAYS – A PARTICLE PHYSICIST'S VIEW	1
<i>Christine Sutton</i>	
GALACTIC COSMIC RAYS	6
<i>Pasquale Blasi</i>	
SEARCH FOR GALACTIC COSMIC RAY SOURCES: THE MULTIMESSENGER APPROACH	12
<i>Julia Becker Tjus</i>	
RECENT RESULTS FROM THE AMS-02 EXPERIMENT	20
<i>Manuela Vecchi</i>	
THE NUCLEON SPACE EXPERIMENT	25
<i>E. Atkin, V. Bulatov, V. Dorokhov, N. Gorbunov, S. Filippov, V. Grebenyuk, D. Karmanov, I. Kovalev, I. Kudryashov, M. Merkin, A. Pakhomov, D. Podorozhny, D. Polkov, S. Porokhovoy, V. Shumikhin, L. Sveshnikova, A. Tkachenko, L. Tkachev, M. Torochkov, A. Turundaevskiy, O. Vasiliev, A. Voronin</i>	
MEASURING TEV COSMIC RAYS AT THE HIGH ALTITUDE WATER CHERENKOV OBSERVATORY	29
<i>Segev Ben Zvi</i>	
ACCELERATION OF COSMIC RAYS AND GAMMA-RAY EMISSION FROM SUPERNOVA REMNANT/MOLECULAR CLOUD ASSOCIATIONS	33
<i>Stefano Gabici, Julian Krause, Giovanni Morlino, Lara Nava</i>	
A PARAMETERISATION OF γ-RAY PRODUCTION CROSS-SECTIONS FOR PP INTERACTIONS IN A BROAD ENERGY RANGE	38
<i>Andrew M. Taylor</i>	
WHAT CAN WE LEARN FROM A SHARPLY FALLING POSITRON FRACTION?	42
<i>Timur Delahaye, Kumiko Kotera, Joseph Silk</i>	
ON THE COSMIC RAY SPECTRUM FROM TYPE II SUPERNOVAE EXPANDING IN THEIR RED GIANT PRESUPERNOVA WIND	46
<i>Martina Cardillo</i>	
KINETIC EFFECTS IN THE TRANSVERSE FILAMENTATION INSTABILITY OF PAIR PLASMAS	50
<i>M. D'Angelo, L. Fedeli, A. Sgattoni, F. Pegoraro, A. Macchi</i>	
IMPACT OF FERMI-LAT AND AMS-02 RESULTS ON COSMIC-RAY ASTROPHYSICS	54
<i>Charles D. Dermer</i>	
GALACTIC VERY HIGH ENERGY SOURCES AND ENHANCEMENTS OF MATERIAL CONTENT	60
<i>Giovanna Pedalletti, Emma de Ona Wilhelmi, Diego F. Torres, Giovanni Natale</i>	
COMPARISON OF THE EXPECTED AND OBSERVED SUPERNOVA REMNANT COUNTS WITH FERMI/LAT	66
<i>Ie Vovk, A. Neronov, D. Malyshev</i>	
HIGH ENERGY EMISSION FROM THE GALACTIC CENTER: THEORY AND OBSERVATIONS	69
<i>M. Chernyakova, D. Malyshev, A. Neronov, R. Walter</i>	
GAMMA-RAY EMISSION FROM STAR-FORMING COMPLEXES OBSERVED BY MAGIC: THE CASES OF W51 AND HESS J1857+026	73
<i>I. Reichardt, E. Carmona, S.R. Gozzini, S. Klepser, J. Krause, V. Stamatescu</i>	
THE GAMMA-RAY SKY AS SEEN WITH HAWC	77
<i>Petra Huntemeyer</i>	
THE CYGNUS REGION OF THE GALAXY: A VERITAS PERSPECTIVE	82
<i>A. Weinstein</i>	
VARIABILITY OF VHE γ-RAY EMISSION FROM THE BINARY PSR B1259–63/LS 2883	88
<i>Stanislav Stefanik, Dalibor Nosek</i>	
Author Index	