

**SCIENCE CASE FOR A WIDE FIELD-OF-VIEW
VERY-HIGH-ENERGY GAMMA-RAY OBSERVATORY IN THE
SOUTHERN HEMISPHERE**

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CONTENTS

1. Introduction and Goal of this document	2
2. Instrumental Context	3
3. Unveiling Galactic Particle Accelerators	5
3.1. Pulsar emissions constraining the local positron flux and diffusion coefficients	6
3.2. Fermi bubbles	8
3.3. PeVatrons	10
3.4. Gamma Rays from Molecular Clouds in the Gould Belt	14
4. Monitoring the Transient Sky	14
4.1. Active Galactic Nuclei	15
4.2. Galactic monitor	26
4.3. Gamma-Ray Bursts and Gravitational Waves	29
4.4. High-energy neutrinos	32
4.5. Multi-messenger correlations	34
4.6. Exploratory searches for new transient phenomena	35
5. Probing Physics Beyond the Standard Model	36
5.1. Dark Matter	36
5.2. Primordial Black Holes	40
5.3. Testing Lorentz invariance with SGSO	41
6. Cosmic-ray observations	42
6.1. Spectrum and composition	42
6.2. Anisotropy	45
6.3. Electron spectrum and anisotropy	47

The SGSO white paper

[https://v1.overleaf.com/
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[https://www.sgso-alliance.org/
SGSOWiki/doku.php?
id=white_paper](https://www.sgso-alliance.org/SGSOWiki/doku.php?id=white_paper)

Fabian Schüssler + Harm Schoorlemmer

History

- **Rochester (June 2017)**
 - Paper skeleton prepared by Miguel, Harm and Segev
- **Paris-Saclay (November 2017)**
 - Harm, Marcos, Fabian: re-organisation of the science drivers
 - paper skeleton updated (e.g. adding first placeholder plots, etc.)
- **Buenos Aires (December 2017)**
 - detailed discussions, starting to find volunteers
 - founding of the SGSO Alliance

History

- **Rochester (Jur)**
 - Paper skeleton
- **Paris-Saclay (M)**
 - Harm, Marcos,
 - paper skeleton
- **Buenos Aires (C)**
 - detailed discuss
 - founding of the

October 2018

08 Oct - 09 Oct **SGSO F2F meeting** (protected)

September 2018

14 Sep **Science case white paper call** (protected)

July 2018

20 Jul **Science case white paper call** (protected)

03 Jul **Science case white paper call** (protected)

June 2018

14 Jun **Science case white paper call** (protected)

May 2018

28 May **3rd Science case white paper call** (protected)

03 May **2nd Science case white paper call** (protected)

March 2018

09 Mar **Science case paper kick-off** (protected)

**Review of first draft
September 2018**

<https://indico.in2p3.fr/category/799/>


Scientific drivers

- **Unveiling Galactic Particle Accelerators**
 - PWN, SNRs, extended sources, Galactic Center region, diffuse Galactic emission
- **Monitoring the Transient Sky**
 - AGN, GRBs, FRBs, multi-messenger (nus and GWs), binaries
- **Probing physics beyond the SM**
 - Dark matter, LIV, PBH
- **Cosmic rays**
 - spectrum, mass composition, anisotropies, electron spectrum

This session

09:00

Introduction

Fabian Schussler et al. 

MPIK

09:15 - 09:25

Monitoring the Transient Sky

Thomas Weisgarber

MPIK

09:25 - 09:45

Beyond the Standard Model


Aion Viana

MPIK

09:45 - 10:05

10:00

Results from review and discussion

Fabian Schussler 

MPIK

10:05 - 10:35

The Decadal Survey

Michael DuVernois

MPIK

10:35 - 10:55

11:00

Galactic Accelerators

Sabrina Casanova

MPIK

10:55 - 11:15