

Annual Report

Funding Programme:	Helmholtz Young Investigators Groups
Project ID No.:	VH-NG 1304
Project Title:	On top of Dark Matter
Group Leader:	Priscilla Pani
Helmholtz Centre:	DESY
Participating University:	Humboldt University
Report Period (=Calendar Year):	01/2019-12/2019

1) Group Structure

Please report briefly on the structure and personnel development of your group.

2 PhD students (Marianna Liberator and Ben Brueers)
1 Postdoc (Baishali Dutta)

2) Network

Please describe how you / your research group are integrated within the Helmholtz Centre and the partner university (e.g. as member of committees).

We cooperate with the ATLAS group members in Humboldt (particularly with Claudia Seitz and Federico Meloni). As a group leader I am establishing contact within the Zeuthen astroparticle community (Elisa Pueschel, Anna Franckowiak, Anna Nelles) We also cooperate within the ATLAS Experiment with Liverpool and Pavia University.

3) Satisfaction

How satisfied are you with the general working conditions provided by the Helmholtz Centre / partner university? Is there anything that meets your criticism?

...Very much satisfied

4) Scientific Progress / Milestones

How has your work plan progressed? Which important milestones could be achieved during the report period? Is the progress of your work in accordance with original planning or has the work plan been changed?

The work is progressing on two fronts: Activity 3 and Activity 1 of the workplan. The original schedule was adjusted in order to have the second PhD student start 11 months earlier than the original planned schedule due to the fact that an exceptional student was found for the position. The start of Activity 2 of the workplace was slightly postponed in favour of Activity 1 due to the fact that an opportunity for an high-impact paper presented itself within the framework of Activity 1. No milestones were achieved yet.

5) Financial Plan / Time Schedule

Can you comply with the financial plan and time schedule or do you see a need for adjustment?

The start of the second PhD student was anticipated and the financial plan was adjusted to accommodate for this change. The rest and the time schedule remain as planned.

6) Status

Do you hold a joint Junior Professorship or a W2/W3 Professorship? Do you aim for such a position? What is the status of your negotiations in this respect?

I would like to aim for such a position but no negotiation has started yet.

7) Teaching Activities of the Group Leader

I am teaching the Detector course at Humboldt University for the summer semester 2019.

8) Publications of the Group

“Constraints on mediator-based dark matter and scalar dark energy models using $\sqrt{s} = 13$ TeV pp collision data collected by the ATLAS detector”, ATLAS Collaboration, arxiv:1903.01400 (2019), submitted to JHEP.

“Report on the Physics at the HL-LHC and Perspectives for the HE-LHC”, ATLAS and CMS Collaborations, CERN-LPCC-2019-01/arXiv:1902.10229 (2019) (three contributions)

9) External Funding

n.a.

10) Patent Applications

No. of pending/granted patents

n.a.

11) Awards received by Group Members / Professorship Appointments offered to Group Leader

none