FWO_DMP_1186022N_Machet

1. General Information

Name applicant

Ludovico Machet

FWO Project Number & Title

1186022N - Gravitational wave signatures of dark matter environment in extreme mass ratio inspirals

Affiliation

- KU Leuven

2. Data description

Will you generate/collect new data and/or make use of existing data?

- Generate new data
- Reuse existing data

Describe in detail the origin, type and format of the data (per dataset) and its (estimated) volume. This may be easiest in a table (see example) or as a data flow and per WP or objective of the project. If you reuse existing data, specify the source of these data. Distinguish data types (the kind of content) from data formats (the technical format).

The project is theoretical and the generated data will be the result of numerical evaluations of symbolic expressions via the Mathematica software or some other coding language. We expect to tipycally handle the following type of data file

Type of data	Format	Volume	How created
Mathematica notebook	.m	1 - 10 MB	Coding in Mathematica
Computation result	.tex, .h5	100 MB	Export from Mathematica
Data plot	.eps	100 KB	Export from Mathematica

3. Legal and ethical issues

Will you use personal data? If so, shortly describe the kind of personal data you will use. Add the reference to your file in KU Leuven's Register of Data Processing for Research and Public Service Purposes (PRET application). Be aware that registering the fact that you process personal data is a legal obligation.

- No

Privacy Registry Reference:

Short description of the kind of personal data that will be used:

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, add the reference to the formal approval by the relevant ethical review committee(s)

- No

Does your work possibly result in research data with potential for tech transfer and valorisation? Will IP restrictions be claimed for the data you created? If so, for what data and which restrictions will be asserted?

- No

Do existing 3rd party agreements restrict dissemination or exploitation of the data you (re)use? If so, to what data do they relate and what restrictions are in place?

- No

4. Documentation and metadata

What documentation will be provided to enable reuse of the data collected/generated in this project?

Each notebook or code that will be developed will be accompanied by a ReadMe file with clear directions for its usage. Data file will be joined by a description of the data encoding and a reference to the source notebooks. These files will be joined to the peer revieved publications as supplementary material if compliant with the LISA collaboration open source policies.

Will a metadata standard be used? If so, describe in detail which standard will be used. If no, state in detail which metadata will be created to make the data easy/easier to find and reuse.

- No

Notebooks will be commented and accompanied by a ReadMe file.

5. Data storage and backup during the FWO project

Where will the data be stored?

All the data and codes used in the project will be stored in the PI's KU Leuven OneDrive folder. Copies can be made and kept on personal devices. The PI will periodically sync the offline copies with the cloud so to keep everything up to date.

How is backup of the data provided?

KU Leuven cloud storage solutions like OneDrive and Box take automatic backups.

Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely. If no or insufficient storage or backup capacities are available then explain how this will be taken care of.

- Yes

The current OneDrive available space is of 2TB, we expect it to be largely sufficient

What are the expected costs for data storage and back up during the project? How will these costs be covered?

There will be no particular costs to manage the data, except for the maintenance of the KU Leuven OneDrive service.

Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

The data we will be used are not sensitive. They will however be stored on a password protected server (OneDrive)

6. Data preservation after the FWO project

Which data will be retained for the expected 5 year period after the end of the project? In case only a selection of the data can/will be preserved, clearly state the reasons for this (legal or contractual restrictions, physical preservation issues, ...).

All data will be stored and preserved fo at least 5 years from the end of the project

Where will the data be archived (= stored for the longer term)?

The data will be stored on the university's central servers (with automatic back-up procedures) for at least 5 years, conform the KU Leuven RDM policy.

What are the expected costs for data preservation during the retention period of 5 years? How will the costs be covered?

We expect the final amount of data not to exceed the 2 TB.

7. Data sharing and reuse

Are there any factors restricting or preventing the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

- No

Which data will be made available after the end of the project?
The data that will be judged relevant to the understanding of a peer reviewed publication will be made available as supplementary material.

Where/how will the data be made available for reuse?

- In an Open Access repository
- Upon request by mail

The data accompanying peer reviewed publications will be made available on Open Acces repositories such as the Black Hole Perturbation Toolkit Zenodo repository.

When will the data be made available?

- Upon publication of the research results

Who will be able to access the data and under what conditions?
The data accompanying peer reviewed publications will be made available on Open Acces repositories such as the Black Hole Perturbation Toolkit Zenodo repository. Therefore, it will be available to anyone for any purpose, provided that they give appropriate credit to the creators.

What are the expected costs for data sharing? How will the costs be covered?
We do not expect additional costs fot the data sharing.

8. Responsibilities

Who will be responsible for data documentation & metadata?
The PI bears the overall responsibility for updating & implementing this DMP

Who will be responsible for data storage & back up during the project?
The PI bears the overall responsibility for updating & implementing this DMP

Who will be responsible for ensuring data preservation and reuse ?
The PI bears the overall responsibility for updating & implementing this DMP

Who bears the end responsibility for updating & implementing this DMP?
The PI bears the end responsibility of updating & implementing this DMP.