
KMS INFORMATION FOR GROUP ACTIONS

A Data Management Plan created using DMPonline.be

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Project abstract:

Establishing bridges between seemingly different areas of research often generates profound insight and drives Mathematics forwards. I have very recently uncovered a surprising connection between properties of groups and KMS information in joint work with Stefaan Vaes. The aim of the project “KMS information for group actions” is to further study this new connection, by identifying how properties of groups are reflected in KMS information. Using a newly discovered connection to ergodic theory of group actions, I will study how properties of groups are reflected in KMS spectra, in factor types of KMS states and examine whether one can derive formulas for the fields of states occurring in Neshveyev’s Theorem.

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FWO DMP (Flemish Standard DMP)

1. Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

This research project is in pure mathematics. No datasets will be generated, collected or reused, neither will simulations, models or software be created or used.

The only kind of data that one can talk about in this project is the manuscripts produced for publications and the texts and scribbles created during the creative process. Hence the list of data becomes

- Manuscripts: This is a newly generated digital data, in the form of .tex files. Each manuscript is around 1 Gb.
- Texts and Scribbles: This is a newly generated digital data, in the form of .tex files or Word files. For each manuscript around 1 Gb of text and scribbles will be produced.

All manuscripts produced will be uploaded to the open-access archive arxiv.org, and will be submitted to journals. They will furthermore be deposited in Lirias in accordance with the FWO requirements.

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

I will not reuse existing data

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? Describe these issues in the comment section. Please refer to specific datasets or data types when appropriate.

- No

Will you process personal data? If so, briefly describe the kind of personal data you will use in the comment section. Please refer to specific datasets or data types when appropriate.

- No

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, ...)? If so, please comment per dataset or data type where appropriate.

- No

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material/Data transfer agreements/ research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

2. Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g., in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, Codebook.tsv etc. where this information is recorded).

The data "Texts and Scribbles" is only for my own use, and any relevant insight from that data will be included in the manuscripts. All the necessary and existing information for the data "Manuscripts" is included in the published manuscripts itself, and will be understandable without any other documentation.

Will a metadata standard be used to make it easier to find and reuse the data? If so, please specify (where appropriate per dataset or data type) which metadata standard will be used. If not, please specify (where appropriate per dataset or data type) which metadata will be created to make the data easier to find and reuse.

- Yes

No metadata will be used for the dataset "Texts and Scribbles".

For the dataset "Manuscripts" keywords will be added as a metadata to the manuscript to make it easier to find. Keywords will be found on the MSC2020 list.

3. Data storage & back-up during the research project

Where will the data be stored?

The data "Texts and Scribbles" will only be stored on my personal computer and the KU Leuven onedrive, as it is only for my own use.

The manuscripts produced will be uploaded to the open-access archive arxiv.org, and will be submitted to journals. They will furthermore be deposited in Lirias in accordance with the FWO requirements.

How will the data be backed up?

The completed manuscripts will be backed up by the journals publishing them. During the writing of the manuscripts, they will be saved on my computer and my KU Leuven onedrive. Besides this, no backup is needed.

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

There is enough storage to backup the files, as they are in total only going to be a couple of handful of GBs.

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

The key part of the data is the manuscripts, and they are only accessible in their published form or on Arxiv, where they can not be accessed or modified by an unauthorized person.

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

There will be no costs.

4. Data preservation after the end of the research project

Which data will be retained for at least five years (or longer, in agreement with other retention policies that are applicable) after the end of the project? In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

The produced manuscripts will be retained on Arxiv, Lirias and in the journals publishing them for more than 5 years. a

Where will these data be archived (stored and curated for the long-term)?

They will be stored on Arxiv, Lirias and in the journals publishing them

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

There will be no costs.

5. Data sharing and reuse

Will the data (or part of the data) be made available for reuse after/during the project? In the comment section please explain per dataset or data type which data will be made available.

- Yes, in an Open Access repository

The data "Texts and Scribbles" will not be made available to the public, as it is for my own use.

The data "Manuscripts" will be made available on the Open access repository Arxiv, and will also be available after some time on Lirias.

If access is restricted, please specify who will be able to access the data and under what conditions.

The Access is not restricted

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)? Please explain in the comment section per dataset or data type where appropriate.

- No

Where will the data be made available? If already known, please provide a repository per dataset or data type.

The manuscripts will be made available on Arxiv and Lirias. They will also be available and in the journals where they get published to

people with access to the journals.

When will the data be made available?

The manuscripts will be made available, at least on Arxiv, as soon as they have been written.

Which data usage licenses are you going to provide? If none, please explain why.

No data usage license will be provided, since this does not apply to the data produced in my project.

Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, you have the option to provide it in the comment section.

- No

What are the expected costs for data sharing? How will these costs be covered?

There will be no costs.

6. Responsibilities

Who will manage data documentation and metadata during the research project?

I personally manage that

Who will manage data storage and backup during the research project?

I personally manage that, to the extent it is applicable to my project.

Who will manage data preservation and sharing?

I personally manage that, to the extent it is applicable to my project.

Who will update and implement this DMP?

I personally manage that