DATA MANAGEMENT PLAN [in English]

1. Data description and collection or re-use of existing data
How will new data be collected or produced and/or how will existing data be re-used?
New data will be generated through calculations performed by the developed software. The theoretical data will primarily focus on positronium formation cross-sections for various atomic and molecular targets. The software will be designed to output data in a structured tabular format. The analysis of this data will be compiled into a detailed PDF document, providing both visualizations and comprehensive explanations. Throughout the project, existing datasets will be utilized, adhering to specific licensing restrictions, namely CC-BY or CC-BY-NC, which will be strictly followed in our work.
What data (for example the types, formats, and volumes) will be collected or produced?
The data will be generated in a .txt format. All selected data intended for long-term archiving and sharing will be stored in widely accessible open formats, such as .txt, .csv, and .pdf. We anticipate that the total volume of data in these formats will reach approximately 1 GB.
2. Documentation and data quality
What metadata and documentation (for example methodology or data collection and way of organising data) will accompany data?
The data within the research project will be produced on the way of theoretical procedures. The naming of the of the files and catalogs will be standardized. Selected data will be facilitated by open research data repository systems (e.g MOST Wiedzy Open Research catalog) with metadata standards eg. DataCite, DDI. Metadata will be stored in the JSON-LD format. Contributors will be identified and authorized by ORCID.
What data quality control measures will be used?
Data will be achieved using reliable standard theoretical methods. All of the obtained data will be recorded by PI with appropriate standards and scientific procedures. The data will be cataloged in a standardized way fulfilling the requirements of FAIR standards. The data available in an open MOST Wiedzy repository will have DOI assigned and they will be positioned to ensure its accessibility.
3. Storage and backup during the research process
How will data and metadata be stored and backed up during the research process?
The data collected in the project duration will not exceed the storage of standard hard drives available therefore the most of the data will be stored on desktop computer of the PI protected with a regularly changed password and shared via the encrypted network connection. The additional copy of all data will be stored on offline external drive/s and (optionally) One Drive service.
How will data security and protection of sensitive data be taken care of during the research?
During the project implementation PI will use the standard file storage services provided and financed by the institution. These include secure (daily) backup. There is no specific confidentiality associated with the data produced in this project.
4. Legal requirements, codes of conduct
If personal data are processed, how will compliance with legislation on personal data and on data security be ensured?
Not applicable
How will other legal issues, such as intelectual property rights and ownership, be managed? What legislation is applicable?
The ownership and management of any intellectual property developed in collaboration relating to the Project remain in the equal rights of the partners as well as the research and operation data. The data and results published in open-access will have one of the Creative Commons licenses.

5. Data sharing and long-term preservation
How and when will data be shared ? Are there possible restrictions to data sharing or embargo reasons?
The part of the data will be published in the Institution's open research data repository – MOST Wiedzy Open Research Data Catalogue. The part of the data will be published in scientific journals which may also require raw data publication or links to the MOST Wiedzy Open Research Data Catalogue be provided with the research articles. Processed data will be shared on reasonable personal request directly from data author. Data, if useful and needed, will be released maximum year after the publication of the results.
How will data for preservation be selected, and where will data be preserved long-term (for example a data repository or archive)?
The MOST Wiedzy Open Research Data Catalogue will be the main data repository. The data provided in the repository will fulfill FAIR requirements and will be categorized and labeled according to the standard file formats. Data published in articles will have priority for long-term keeping. Only post-processed data will be available for general public.
What methods or software tools will be needed to access and use the data?
Most of the data available in open repository will be exported to *.csv, *.asc, or *.txt formats to allow opening of the data without any additional specific software. However, provided raw data files may require the use of specialised and licenced programs. If any software will be needed for data analysis, it will be directly mentioned on the platform. The data will be available on MOST Wiedzy Open Research Data Catalogue (mostwiedzy.pl).
How will the application of a unique and persistent identifier (such us a Digital Object Identifier (DOI)) to each data set be ensured?
The data available in MOST Wiedzy Open Research Data Catalogue platform will be assigned with DOI number.
6. Data management responsibilities and resources
Who (for example role, position, and institution) will be responsible for data mangement (i.e the data steward)?
Open Science Competence Center (https://pg.edu.pl/openscience) - established by Gdańsk University of Technology will be responsible for consulting the Data Management Plan and data storage as well as dissemination of the results. Project PI will be responsible for the procedures assessment and overall data quality.
What resources (for example financial and time) will be dedicated to data management and ensuring the data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?
All data obtained during the implementation of the research projecft will be stored, transferred, labeled and processed by PI of the Project. No additional resources are required.