Plan Overview

A Data Management Plan created using DMPTool

DMP ID: https://doi.org/10.48321/D1XC9J

Title: Hadron Spectrum Collaboration

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Project abstract:

Computation and storage of meson and baryon elementals, perambulators, generalized perambulators, and correlation functions

Start date: 07-01-2021

End date: 06-30-2030

Last modified: 04-17-2024

Copyright information:

Hadron Spectrum Collaboration

Data types and sources

Data will be generated using lattice QCD techniques. These data objects are to be used in research programs for QCD spectroscopy. The raw and processed data will be archived on local tape resources at Jefferson Lab. It will be made available to other researchers on request.

Content and format

The data are stored in a database format called "filedb" developed at Jefferson Lab and is freely available. The software is available on GitHub in [filedb.](#)

Sharing and preservation

The data is a in raw format that is used for other analysis projects. The output from those analysis projects are suitable for publication. The data from the off-line analysis will be preserved in Git repositories on GitHub along with the text and figures for the publications.

Rational

The data generated will be used to elucidate the theory of elementary particles and their interactions. Results of calculations will help interpret experiments at national and international facilities.

Data for publications

There are two main classes of data. The database objects are in raw format that is used for other analysis projects. This source data has a URL specifying its location.

This raw data is used analysis projects which produce data and figures suitable for publication. The data from the off-line analysis will be preserved in Git repositories on GitHub along with the text and figures for the publications.

Raw data

Below is a table showing the expected production of raw data under the 2024-2025 allocation year.

Production date	Ensemble	Type	Number	Size
Expected 2025	48^3x512, m_pi=170	Perambulators	(light + strange)*160 configs	1.1 TB
Expected 2025	32^3x256, m_pi=236, 275MeV	Genprop	(light+strange)*485 cfgs	240 TB
Expected 2025	24^3x256, m_pi=275,330,396,700	Genprop	(light+strange)*485 cfgs	288 TB

Data management resources at Jefferson Lab

This project will follow the data management policies of Jefferson Lab and USQCD. Files on tape have a unique URL - universal resource locator. A file mapping of the the tape system is available. The tape facilities under the LQCD project are managed as part of the data management of all experimental data at the lab.

Protection

The data generated will not contain PII or compromise U.S. national, homeland, and economic security. It will recognize proprietary interests, business confidential information, and intellectual property rights; avoid significant negative impact on innovation, and U.S. competitiveness; and otherwise be consistent with all applicable laws, regulations, and DOE orders and policies. The data will not involve human or animal subjects.

Planned Research Outputs

Dataset - "Correlation functions"

Two-point and three-point Euclidean correlation functions

Planned research output details

Title	Type	Anticipated release date	Initial access level	Intended repository(ies)	Anticipated file size	License	Metadata standard(s)	May contain sensitive data?	May contain PII?
Correlation functions	Dataset	Unspecified	Restricted	None specified		BSD 3-Clause "New" or "Revised" License	None specified	No	No