



Contribution ID: 82

Type: Poster

Gravitational Wave Data Manager –A Python package for managing multichannel gravitational wave data

Tuesday, 23 May 2023 18:44 (1 minute)

The Gravitational Wave Data Manager (GWdama) is a Python package that aims at providing an easy way to access Gravitational Wave data and output well-organized datasets, that can be then used for various purposes, including the data management of multichannel data coming from different instruments as well as the development of new data analysis methods, such as Machine Learning.

GWdama behaves as a multi-purpose and multi-format data management library for gravitational wave data.

Data is organized into a HDF hierarchical structure consisting of groups and subgroups of data. This approach can be used to store sets of homogeneous data, e.g., multiple chunks of strain data, as well as sets consisting of signals recorded by different instruments in the same time frame.

The typical use case of this package is data acquisition and preparation. GWdama can access data in the most commonly used environment in the field of gravitational waves and can provide basic operations for data manipulation and plotting. Although it is primarily meant for GW data, it is built to be sufficiently generic to handle any data type, including sensors used for the measurements of interest of the Einstein Telescope Site Preparation Board.

Primary authors: FIORI, Alessio (Istituto Nazionale di Fisica Nucleare); PATRICELLI, Barbara (Istituto Nazionale di Fisica Nucleare); DI RENZO, Francesco; FIDECARO, Francesco (University of Pisa and INFN); DEMASI, Gabriele (Istituto Nazionale di Fisica Nucleare); BELLIZZI, Lorenzo (Istituto Nazionale di Fisica Nucleare); PAPALINI, Lucia (Istituto Nazionale di Fisica Nucleare); PALAIA, Maria Antonietta (Istituto Nazionale di Fisica Nucleare); Prof. RAZZANO, Massimiliano (Università di Pisa and INFN-Pisa); VACATELLO, Michele (Istituto Nazionale di Fisica Nucleare); Mr SORRENTINO, Nunziato (University of Pisa and INFN-Pisa)

Presenter: PALAIA, Maria Antonietta (Istituto Nazionale di Fisica Nucleare)

Session Classification: Tuesday Poster session

Track Classification: Infrastructures: Site characterization