

Название публикации:

Geometry database for the CBM experiment and its first application to the experiments of the NICA project

Авторы:

Akishina, E.P.a, Alexandrov, E.I.a, Alexandrov, I.N.a, Filozova, I.A.a,b,c, Friese, V.d, Gertsenberger, K.V.e, Ivanov, V.V.a,f, Rogachevsky, O.V.e

- a) Laboratory of Information Technologies, Joint Institute for Nuclear Research, 6 Joliot-Curie, Dubna, Moscow Region, 141980, Russian Federation
- b) Institute of System Analysis and Management, Dubna State University, 19 Universitetskaya, Dubna, Moscow Region, 141982, Russian Federation
- c) Plekhanov Russian University of Economics, 36 Stremyanny Per., Moscow, 117997, Russian Federation
- d) GSI Helmholtzzentrum für Schwerionenforschung GmbH, 1 Planckstraße, Darmstadt, 64291, Germany
- e) Laboratory of High Energy Physics, Joint Institute for Nuclear Research, 6 Joliot-Curie, Dubna, Moscow Region, 141980, Russian Federation
- f) National Research Nuclear University MEPhI, 31 Kashirskoe Shosse, Moscow, Russian Federation

Наименование журнала:

CEUR Workshop Proceedings

Volume 2267, 2018, Pages 504-508

Selected Papers of the 8th International Conference ""Distributed Computing and Grid-Technologies in Science and Education"", GRID 2018; Dubna; Russian Federation; 10 September 2018 до 14 September 2018; Код 143812

Аннотация:

This paper is dedicated to the current state of the Geometry Database (Geometry DB) for the CBM experiment and first results of using the Geometry DB for NICA project. Geometry DB is an information system that supports the CBM geometry. The main aims of Geometry DB are to provide the storage of the CBM geometry, to manage the geometry modules, to assemble various setups as combinations of geometry modules and additional files, to provide its support. The development takes into account the specifics of the workflow for simulation of particles transport through the setup. Both Graphical User Interface (GUI) and Application Programming Interface (API) are available for members of the CBM collaboration. In our approach, the details of the geometry modules are stored in the format of ROOT files. Such a technique allows using the Geometry DB in the NICA project: BM@N and MPD experiments. © 2018 Elena P. Akishina, Evgeny I. Alexandrov, Igor N. Alexandrov, Irina A. Filozova, Volker Friese, Konstantin V. Gertsenberger, Viktor V. Ivanov, Oleg V. Rogachevsky.

Ключевые слова:

Application programming interfaces (API) Database systems, Distributed computer systems, Graphical user interfaces, Macros