Preface

Modern large-scale physics experiments generate a huge data stream, measured in at least hundreds of terabytes. The time of their active operation can reach several decades, and the amount of accumulated data can exceed one hundred petabytes. In this context, the issue of active and on-going management of data throughout their life cycle is very important and highly topical.

The data management covers all aspects of the data life cycle, including acquisition, collection, and storage; then simulation, processing and analysis; and finally, accessibility, dissemination (particularly providing open access) and archiving as well as using data for education and outreach purposes. Each stage has its own specifics, and in general, they all involve the acquisition of new knowledge and sharing of this knowledge with the scientific world.

The Fourth International Workshop on Data Life Cycle in Physics (DLC-2020) held in Moscow, Russia, was devoted to discussing a wide range of important practical issues related to data management throughout their life cycle. The main focus was put on various aspects of storing astrophysical experimental data and using deep machine learning methods to analyze and process these data. The use of accumulated data in education and knowledge dissemination issues were also considered.

These proceedings include the 20 best papers selected for publication by the scientific editorial group.

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