

Physics Case

Introduction

Since data preservation in HEP having never been done in the past on a large scale, it must be recognized that the present document can only spell out potentialities offered by the project. It must also be acknowledged that the HEP physicists community bears various fears, as for example seeing low quality, or wrong, physics results coming out of the initiative, which could therefore prove to be worse than doing nothing, or explicitly forbidden long term preservation. We assume in this section that the organization of the project (cf. Governance, Policies, Organization) and its technical implementation (documentation, etc.) will take care of such essential issues.

The physics case varies from experiment to experiment. For example, some experiments will likely see their data set supersede either in the short term (e.g. B-Factory experiments) or possibly in the long term (HERA experiments): for those experiments it might be less important to prepare for a very long term data/software/documentation preservation. Because of the variety of situations, the present executive summary makes no attempt to cover all of them specifically, but provides some concrete examples, some taken from small-scale attempts done in the past.

Self serving

Experts serving

Cross-Check facility

Training Ground facility

Long term preservation

Theorists involvement