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The PHENIX Experiment in the RHIC Run 7

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The PHENIX experiment at the Relativistic Heavy Ion Collider (RHIC) has commissioned several new detector systems which are part of the general readout for the first time in the RHIC Run 7, which is currently under way.

In each of the RHIC Run periods since 2003, PHENIX has collected about 0.5 PB of data. For Run 7 we expect record luminosities for the Au-Au beams, which will lead to even larger data sizes.

We have in the past used GRID tools to transfer substantial data volumes in the order of 400TB off-site in order to make use of remote computing capacity in Japan, France, and the US, and are set up to do the same in Run 7.

Even at the highest expected luminosities we will still be able to log all events triggered by the level-1 trigger in this Run. The data acquisition system can sustain a rate of up to 600MB/s. In order to expedite the analysis of interesting events, we will use the Level-2 trigger system as a filter to select interesting events for priority reconstruction and analysis.

We will give an overview of the online system, our strategies to cope with the data storage demands, near-line transfers to off-site locations, and analysis strategies.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

for the PHENIX Collaboration

Primary author: Dr PURSCHKE, Martin (BROOKHAVEN NATIONAL LABORATORY)

Presenter: Dr PURSCHKE, Martin (BROOKHAVEN NATIONAL LABORATORY)

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