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Monitoring measurements during the construction work for FAIR and re-alignment for GSI machines for the beam time 2018

Due to the current construction work for FAIR (Facility for Antiproton and Ion Research), significant deformations in the area of the existing GSI synchrotron (SIS18) and adjacent beamlines occurred in 2017/2018. During the construction progress, high-precision 3D-network measurements were carried out at different epochs to monitor the magnitude of ground settlement. In order to be able to realize the beam time 2018, a new alignment strategy was developed based on these measurements and with the aim of minimizing the adjustment values. For this purpose, the complete synchrotron, parts of the transfer channel and the high-energy beamline were aligned intentionally on an inclined plane instead of the usual horizontal plane for the first time. The poster gives an overview about the current situation and the achieved results.

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