

International Workshop on Accelerator Alignment



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EXPERIMENTAL EVALUATION OF LASER TRACKER TARGET HOLDERS STABILITY

The new Brazilian Light Source, Sirius, will be commissioned in 2018 and is considered by many as a fourth generation Synchrotron facility project. The Survey and Alignment activities are currently in the planning phase and one of the focus is the target holders development. Those target holders will be installed in our accelerator to serve as a network of reference points to be used in the alignment process. In this paper, we are interested in assessing the capability of our concepts in maintaining the center of the Laser Tracker optical target in the same position as it is repositioned. We performed an experiment designed to compare six models and run an analysis of variance to evaluate the data. A performance measure was defined in order to take into account repeatability errors of repositioning the optical target. We were able to verify statistical differences of small magnitude between the concepts. We will use the quantitative results to help the decision-making.

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