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Results from the ALS-U storage ring alignment system prototype

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ALS-U stability and alignment requirements coupled with tight space constraints present in the existing ALS have driven a new design for the storage ring support and alignment system. A prototype has been built and tested with alignment accuracy results in the 30 micron range and stability results in the 35 nm range. The new design overcomes distinct ergonomic challenges and reliability failures of earlier hardware iterations. The prototype has also been tested to an alignment time requirement that is necessary to minimize dark time– the phase of the program when alignment of the storage ring will occur. This paper presents the innovative solutions implemented on the alignment system prototype to address the unique problems of ALS-U.

Footnotes

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