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Standardization of ancillary installation tooling for SRF cavities at Fermilab

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For assemblies of cavities in cleanrooms, single-use tooling systems are made for the alignment and installation of ancillary components such as couplers and bellows. To try and minimize the amount of tooling sets used, a design has been created to standardize alignment features to allow for assembly of different components with one set of tooling. A prototype set of tooling has been developed to with the required degrees of freedom for multiple assemblies while minimizing deformation during the assembly process. Prototype designs have been created for PIP-II SSR2 and 650 Cavities and for AUP Crab Cavities. Using 3D printing, this tooling can be quickly adjusted to allow for different ancillary components. The development process and status of the design will be discussed.

Footnotes

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