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Tests and validations on serial production of Universal Adjustment Platforms standardized components

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As part of the High Luminosity LHC (HL-LHC) project, a modular 6 Degrees of Freedom platform, called the Universal Adjustment Platform (UAP), has been developed. This platform, based on standardized micrometric adjustment jigs, enables the precise alignment of accelerator components weighing up to 2000 kg. Following the successful validation of a fully functional prototype, serial production of the standardized components began in 2025. To ensure quality and meet stringent precision requirements, a validation test sequence—based on a specially designed test bench—was established. This sequence allows for the verification of the production series (140 vertical jigs and 70 radial jigs) and assesses their micrometric backlash behaviour under load. This paper presents the testing methodology and the results obtained from the validation of the jig production series.

Footnotes

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