



Contribution ID: **201** Contribution code: **WEP27**

Type: **Poster Presentation**

## Diamond-II prototype girder testing

*Wednesday 17 September 2025 17:00 (1 hour)*

This presentation will detail the development and testing of the Diamond-II girder and support system for the Diamond-II storage ring. Key topics include the design choices for the mechanical positioning system, comprehensive vibration test and analysis, alignment, and transport testing. Additionally, the laser tracker survey processes and impact on alignment uncertainty will be discussed. The manual alignment system features a primary overconstrained four-wedge jack system atop a series of base plates each controlling different degrees of freedom, linear encoders are used to feedback relative movements of the girder during the alignment process. A secondary mechanical locking system is included which is intended to improve the overall system stiffness and vibration response. Extensive vibration and alignment test and analyses have been conducted to ensure the system meets the physics requirements for the Diamond-II storage ring and the results of this will be presented.

### Footnotes

### Funding Agency

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**Session Classification:** Wednesday Poster Session

**Track Classification:** ACCELERATORS: Storage Rings