



Contribution ID: 1891 Contribution code: WEPM135

Type: **Poster Presentation**

## EIC crab cavity LLRF specifications

*Wednesday, 10 May 2023 16:30 (2 hours)*

The EIC Crab Cavity Low-Level Radio Frequency system will have to regulate the crabbing and uncrabbing voltages, while also keeping their sum close to zero. The system will have to reduce the crab cavity impedance to prevent transverse instabilities. It will also have to maintain extremely low RF noise levels injected to the beam. This work presents an estimate of the required performance for each of these conditions and a summary of the specifications to achieve them. The significant tradeoffs between these requirements are also explored.

### Funding Agency

This work is supported by the U.S. Department of Energy, Office of Science, Office of High Energy Physics, under Award Number DE-SC-0019287.

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

**Primary author:** MASTORIDIS, Themis (California Polytechnic State University)

**Co-authors:** LOE, Trevor (California Polytechnic State University); MAHVI, Paul (California Polytechnic State University); TOIVOLA, Matti (California Polytechnic State University)

**Presenters:** MASTORIDIS, Themis (California Polytechnic State University); TOIVOLA, Matti (California Polytechnic State University)

**Session Classification:** Wednesday Poster Session

**Track Classification:** MC6: Beam Instrumentation, Controls, Feedback and Operational Aspects: MC6.T27: Low Level RF