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Electro-mechanical oscillations and instabilities in PIP-II SSR2 and LB650 cavities.

Instabilities in room temperature accelerator RF cavities due to interaction between electromagnetic RF field and mechanical vibrational modes of the cavity has been observed in 1960s [1,2]. In superconducting RF (SRF) cavities these types of instabilities may be even stronger because of larger beam loading factor (Q_L), large cavity field, and stronger effects of cavity de-tuning due to ponderomotive forces (so-called Lorentz force de-tuning, LFD). In this paper we present observation of electro-mechanical oscillations (EMO) and instabilities in PIP-II SSR2 and LB650 cavities. Analytical and computational models of EMO are discussed, and stability criteria are defined.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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