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## Results from extended range SRF cavity tuners tests for LCLS-II HE

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The LCLS-II HE superconducting linac can produce multi-energy beams by supporting multiple undulator lines simultaneously. This could be achieved by using the cavity SRF tuner in the off-frequency detune mode. This off-frequency operation method was tested in 8 cryomodules at Fermilab at 2 K. In all the tests the tuners successfully achieved a frequency shift of  $-565 \pm 80$  kHz from the 1.3 GHz value. This study discusses the cavity frequency during each stage of assembly from the cryomodule string to when they are finally tested at 2 K. Monitoring the cavity frequency from this initial stage contributed in reaching this large frequency shift. The specific procedures of tuner setting during assembly will be presented.

### Footnotes

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### Paper preparation format

### Region represented

North America

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