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# Stability of thyratron switching in LCLS linac modulators

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Building from several years of study, it is determined that the dominant cause of pulse to pulse jitter in LCLS linac modulators is thyratron performance [1]. Without a stabile thyratron, all other sources of jitter are dwarfed. To achieve long term stability in this environment, a highly de-rated off the shelf thyratron was selected to upgrade critical RF stations. After a year of operation, the thyratron has demonstrated its effectiveness in reducing thyratron related jitter in a way that allows for other jitter improvements to be pursued. The thyratron upgrade study is presented in this paper.
[1] F.J. Decker, A. Krasnykh, B. Morris, and M. Nguyen, "A Stability of LCLS Linac Modulators"IEEE IPMHVC 2012, San Diego, CA.

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