

# Low Level RF Workshop 2022



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## LCLS-II LLRF System Checkout Lessons Learned

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The SLAC National Accelerator Laboratory has completed the installation and checkout of hardware for the SRF based accelerator LCLS-II, an ultra-bright Free Electron Laser. The LCLS-II is composed of 296 SRF cavities, each with its own LLRF control system. During production, care was taken to preserve the low noise design performance needed for controlling the  $5 \times 10^7$  QL SRF cavities. A novel continuous checkout process was run for months before and after SRF commissioning began. Production hardware has also been sent to collaboration SRF facilities for performance evaluation, firmware/software development, and cryomodule testing. So, how did it go? This work will discuss practical aspects of LLRF system installation, checkout, and integration. Test methods, results, statistics, and lessons learned will be presented.

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