Contribution ID: **37** Type: **Oral presentation**

RF Upgrades and Operating Experience at JLab

Thursday, 15 May 2014 12:00 (30 minutes)

Designed as a 4 GeV electron machine, CEBAF was run at 6 GeV. Major upgrades implemented over the past several years increased capabilities to12 GeV. 80 CW RF channels of a new design were added to the existing 340 channels to achieve this energy. As previously reported, a new, higher power klystron design, new HV power supplies, plus new controls and interlocks were required. Deliveries of some major components were late, with some requiring working closely with vendors to meet requirements.

RF installation is complete and focus has moved to providing operational support for commissioning of the accelerator as well as improving familiarity with the new systems while working to maintain the existing, aging infrastructure. New systems have generally operated well but not without some early glitches. One klystron failure has occurred to date, numerous support electronics (power supplies, interlocks, cabling, and other failures) have surfaced. Learning these new systems for troubleshooting and repair is ongoing. This talk will review the systems, experiences, discuss select issues and failures.

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Session Classification: Thursday morning 2

Track Classification: SPC judgements