

New RF Power Amplifier Unit for Berkeley 88” Cyclotron.

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The 88-Inch Cyclotron is operated as a national facility in support of U.S. Department of Energy programs in basic nuclear science. The RF system of the cyclotron is based on the quarter-wave cantilever type resonating structure powered by 500kW 4648 RCA RF tetrode operating in grounded cathode configuration. The resonance frequency range of the RF system is 5.5MHz to 16.5MHz. Prohibitive cost of 4648 RCA tetrode, permanent problems with anode blocking capacitors and the fact that cyclotron operation has been founded for next several years generated decision to build the new PA unit based on lower cost CPI 4CW150000E tetrode. New PA unit has been designed, build and is scheduled to be installed during next shut-down (May 24-28 2010). Presentation will cover the PA design process and the preliminary low power test results.

Primary author: Mr KWIATKOWSKI, Slawomir (LBNL)

Presenter: Mr KWIATKOWSKI, Slawomir (LBNL)

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