

Updated Impedance Estimate of the PEP-II RF Cavity*, R.A. RIMMER, J.M. BYRD,

D.A. GOLDBERG, M. IRWIN, LBNL - This paper presents an updated estimate of the higher-order mode impedance spectrum of the RF cavities for the PEP-II B-factory. The cavity is designed for continuous operation at 476 MHz with up to 150 kW wall dissipation and heavy beam loading. To reduce the growth rates of coupled-bunch instabilities the cavity higher-order modes are damped by three rectangular waveguides and broad-band loads. The results of detailed measurements on the first high-power cavity with all absorbers in place are presented and the damping effect due to the high-power coupler is discussed. Results are compared with earlier measurements of a cold-test model. Implications for the design of the broad-band bunch-by-bunch feedback systems and high-power HOM loads are discussed.

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