Energy Spread From RF Amplitude and Phase Errors[*], <u>L. MERMINGA</u>, G. KRAFFT, CEBAF - The energy spread in the beam due to rf amplitude and phase errors is calculated. The effects of slow phase errors and the effects of feedback systems are included in the calculation. If an rms energy spread requirement is to be met, a final formula gives the trade-off between slow and fast phase errors, and amplitude errors. Comparisons with experimental data obtained during CEBAF's high current operation are made. The calculation is generalized to include off-crest operation, and multiple cavities powered by a single klystron. Phase and amplitude stability requirements are derived for the CEBAF accelerator, the IR FEL proposed for construction at CEBAF, and the TESLA Test Facility, proposed for construction at DESY.