

Longitudinal Damper for the TLS Storage Ring,
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Longitudinal coupled bunch instability is the limiting factor to a stored beam in achieving stable bunch arrival time. A longitudinal damper* for the TLS storage ring based on digital signal processing techniques are under study. A trial system including the bunch phase error detector, analog-to-digital converter, digital signal processor, digital-to-analog converter, modulator and a TWT power amplifier is under construction. This system is able to control the longitudinal dipole oscillations of the beam in a few-bunch mode. Preliminary test results are discussed.

* As proposed by John Fox et al for the PEP-II B factory and Advanced Light Source.