

**The Kicker Magnet System to Generate High Magnetic Field with Fast Rise and Long Flat Top,**

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S. TAZAWA, T.T.S. - The KEK-PS has used slow extraction system from the main ring. The neutrino oscillation experiment is proposed, and it needs a fast extraction system which should be constructed in the near future. In order to extract nine bunches of 12 GeV beam successively, which circulate in the main ring with the revolution time of 1.6  $\mu$ s, the magnetic field of the kicker magnet is requested that the rise time is less than 180 ns\*, the time of flat top is more than 1.3  $\mu$ s and the strength is higher than 0.1T. The kicker system is composed of Blumlein system (which is consisted of a thyatron housing, H.V.DC power supply, two PFN cables (12.5 $\Omega$ , 130m) and a matching resistor with diode), a pulse transformer, a transmission cable and a kicker magnet.

- \* Since it is too severe for the magnetic field to rise between bunch and bunch (= 80 ns), one bunch of nine bunches is not injected into main ring and we can use the room of the bunch.