

**Impedance Measurement of ATF DR,**  
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Tokyo Metropolitan University - The beam operation of the  
damping ring in the KEK accelerator test facility (ATF) has  
been started since January 1997. The purpose of this ring  
is to develop the technologies to achieve a lower emittance  
beam that required in the future linear collider such as JLC.  
To avoid an acceptable emittance growth in the ring,  
vacuum chambers have to get low impedance to suppress  
single bunch instabilities. They were designed to keep their  
cross section with shallow transitions and some shields  
especially for bellows. The effect of impedance sources  
was estimated by using the numerical code ABCI and  
MAFIA. Further, the actual impedance of the ring was  
estimated by measuring the intensity dependence of the  
bunch length. This was done by using the streak-camera  
system that took images of the synchrotron light from a  
dipole magnet. We report the results of the impedance  
measurement of the ATF damping ring.