

New beam line for R&D of nano-meter electron beam has been started at Accelerator Test Facility

A new beamline for R&D toward nano-meter electron beam has started operation at KEK's Accelerator Test Facility - ATF.

This new beamline, called ATF2, is an extension of ATF, and the focus of the research there will be on establishing the technologies for creation and control of a nano-meter-sized electron beam.

ATF is an accelerator complex at KEK for development of advanced technologies for future accelerators, including the International Linear Collider (ILC). ATF has been producing and using an electron beam with an extremely small vertical-emittance, as required by ILC. The new beamline, ATF2, was designed with a beam optics design scaled from the ILC's final focus system. Goals of R&D at ATF2 are to achieve a vertical beam size as small as 35 nm, and to establish the technologies for stabilizing this beam at the nano meter level.

A formal international collaboration for ATF has been active since 2005. This collaboration includes members from most of major accelerator laboratories and universities in the world, and the design and construction of the ATF2 beamline have been carried out in this framework. In-kind contributions of overseas institutes, including those from China, Korea, France, UK and US, have been smoothly integrated into ATF2. The successful international co-operation in ATF2 can be regarded as a model for the global collaboration that is envisaged for ILC.

[Related Web Site] [ATF](#)

