38th INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS
AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: **823** Type: **Oral Presentation**

STF-2 Cryomodule Performance and New Input Coupler R&D for ILC (12' + 3')

Saturday 6 August 2016 12:00 (15 minutes)

The high power test for STF-2 cryomodule with twelve cavities has completed successfully in 2015. It became clear the average accelerating gradient was 30.3 MV/m, eight cavities achieved above 31.5 MV/m as the ILC specification, and three cavities had the significant performance degradation by heavy field emission due to the additional clean room work in the STF tunnel. As the following next steps, there are the LFD (Lorenz Force Detuning) measurement, LFD compensation by piezo, and long run for check of stable operation at high gradient. In the long run around 32 MV/m, each cavity without degradation showed the stable operation with the successful LFD compensation by piezo and RF feedback system.
On the other hand, from the view point of plug-compatibility for the input coupler in the ILC, new STF input couplers with 40mm of input port were re-designed, fabricated and high-power-tested successfully. Moreover, for the lower cost study, another input couplers with coating-free ceramic will be also tested soon in the collaboration of CERN and KEK.
In this presentation, the detailed results for STF-2 Cryomodule test and 40mm input couplers are reported.

Primary author: YAMAMOTO, Yasuchika (KEK)

Co-authors: YAMAMOTO, Akira (High Energy Accelerator Research Organization (JP)); Dr KAKO, Eiji (KEK); Dr MONTESINO, Eric (CERN); Dr NAKAI, Hirotaka (KEK); Mr HONMA, Teruya (KEK); Dr MATSUMOTO, Toshihiro (KEK); Mr SHISHIDO, Toshio (KEK); Mr KOJIMA, Yuuji (KEK)

Presenter: YAMAMOTO, Yasuchika (KEK)

Session Classification: Accelerator: Physics, Performance, R&D and Future Facilities

Track Classification: Accelerator: Physics, Performance, R&D and Future Accelerator Facilities