



Contribution ID: 39

Type: Talk

## Program to improve the JYFL ion beam transport efficiency for K130 cyclotron

*Friday, 11 May 2012 16:30 (20 minutes)*

The transmission efficiency measurements of the JYFL accelerator facility were started in 2007. The motivation towards the studies was the fact that after a certain limit the beam intensity after the cyclotron did not increase with the beam intensity extracted from the JYFL 14 GHz ECRIS. Instead, the accelerated beam intensity reaches a saturation value and even starts to decrease if the total beam intensity from the ion source exceeds the value of about 1 mA. The result indicated that the beam quality starts to degrade severely with high total beam currents. Since 2007, comprehensive research program has been carried out in order to explain this unwanted behavior, to find the bottle-necks affecting the beam quality, and to find means to resolve these problems. Several parameters affecting the beam quality have been found and as a result a solid program with different intermediate steps for improving beam transport efficiency of our accelerator facility has been defined. In this presentation the afore-mentioned work and upgrade plan will be presented.

### **Please indicate preferred presentation (poster or talk?)**

Talk

**Primary author:** Dr KOIVISTO, Hannu (Department of Physics, University of Jyväskylä (JYFL))

**Co-authors:** Mr KOMPPULA, Jani (Department of Physics, University of Jyväskylä); Dr TARVAINEN, Olli (Department of Physics, University of Jyväskylä); Mr KALVAS, Taneli (Department of Physics, University of Jyväskylä); Mr TOIVANEN, Ville (Department of Physics, University of Jyväskylä)

**Presenter:** Dr KOIVISTO, Hannu (Department of Physics, University of Jyväskylä (JYFL))

**Session Classification:** Technology