ISAC Operations Note

Title: 16O3+ DRAGON run

Date: April 9, 2009

Author: Marchetto Marco

DRAGON will request few energy changes for the 16O run. All the energies are inside DTL Tank4. We are going to use HEBT 35 MHz buncher to reduce the energy spread.

The procedure for energy changes is the following:
1 - fiddle save the HEBT optics 1 page then change the HEBT:Q6, HEBT:Q7 and HEBT:Q8 to the PRAGUE optics (see the ISAC I OPEN office spreadsheet);
2 - get the field of the PRAGUE magnet for the requested energy from the OPEN office;
3 - set the energy with DTL tank4 as follow: set first the amplitude then check the phase in order to have maximum acceleration (remember that when the beam moves toward the left side of the PRAGUE harp is accelerating meaning higher energy). After you check the phase you have to readjust the amplitude;
4 - restore the HEBT optics page 1 with the fiddle ;
5 - rescale the optics downstream the DTL up to DRAGON for the new energy;
6 - last DTL quads may need to be tune to restore transmission at HEBT:FC5;
7 - deliver the beam to DRAGON. You may have to adjust the HEBT2:MB0/1 dipoles and HEBT:YCB2/6 steerers to restore transmission through DRAGON.
8 - Dragon is going to measure the energy and then they will request to set up the HEBT buncher;
9 - DRA:XSLITC has to be closed down to 2 mm;
10 - turn on the Buncher with amplitude around 400 then lower it around 200
11 - set the buncher phase in order to have the beam centered again on DRA:XSLITC; you should find two phases which center the beam, choose the one that gives maximum current on DRA:FCCH cup;
12 - adjust the buncher amplitude to maximize the beam current on DRA:FCCH cup;
13 - send the beam to Dragon;
14 - they should punt some gas in the target chamber so you can see the beam on the

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CCD camera;
15 - the last step is to aligned the beam into DRAGON (see the written procedure)

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