

# Christian Hansen's Round Table Contribution:

## CERN Decay Ring

The transversal broad band impedance studies concluded a required maximal transversal shunt impedance of 0.6 M $\Omega$ /m of the Beta Beam Decay Ring (assuming half the nominal  $^{18}\text{Ne}$  intensities and double  $^6\text{He}$  intensities). Longitudinal studies have started but there are very different results from HEADTAIL and Keil-Schnell which have to be understood. Transversal studies for the SPS have also started. There however the RF program for the Beta Beam ions are yet to be well defined before collective effect studies can be completed. This is ongoing work in collaboration with A. Chanc (CEA).

## $\gamma = 350$ Decay Ring

Discussions with the neutrino physicists have started about a Beta Beam with gamma = 350. This would however mean a "green field" solution but the studies of the Decay Ring is anyhow starting. We discuss with the physicists how much the suppression factor could be relaxed in this case, and if with allot, the idea of using a Barrier Bucket RF system should be restudied and then new collective effect studies should be pursued.

## Matching Routines in HEADTAIL

Also work outside Beta Beams have been made. General matching routines by Oliver Boine-Frankenheim (GSI) have been implemented and committed into the new C++ version of HEADTAIL (see the SVN repository). They work (a previous sign bug was found): [http://chansen.web.cern.ch/chansen/EURONU/HTL\\_AND\\_LOBO/Matching/matching.html](http://chansen.web.cern.ch/chansen/EURONU/HTL_AND_LOBO/Matching/matching.html) but more benchmarking and testing with different potentials needs to be done.