

**FCC-hh: Injection and extraction**

The FCC injection system is strongly linked to the High Energy Booster (HEB) extraction and transfer. A staggered beam transfer from the HEB to FCC is deemed necessary for machine protection reasons. This constraint defines the maximum rise time of the injection kickers and the design of injection protection devices. For extracting the beam from FCC it is presently assumed to dump the full beam at once. Ideas for an insertion layout of injection and extraction and specifications of the related hardware systems will be shown. Constraints from injection and dump systems on the overall filling scheme, limits of the dump absorber and study directions and R&D programs will be highlighted.