### The principle of beam line inversion (BLI) of Gantry

1. First step. Beam optics design from the isocenter to the coupling point of gantry.



**The inverse Gantry beam envelope**

2. Second step. Reverse Gantry beamline.



**Reverse Gantry beamline**

3. Then, we get the final beam optics of gantry beamline. Beam FWHM=4-10 mm.



**Final beam optics of gantry (FWHM=4-10 at the gantry isocenter)**

As shown in these figures, both at the isocenter and the gantry coupling point the beam have a beam waist (). It was named “waist to waist imaging optics” in the TRANSPORT user guide.