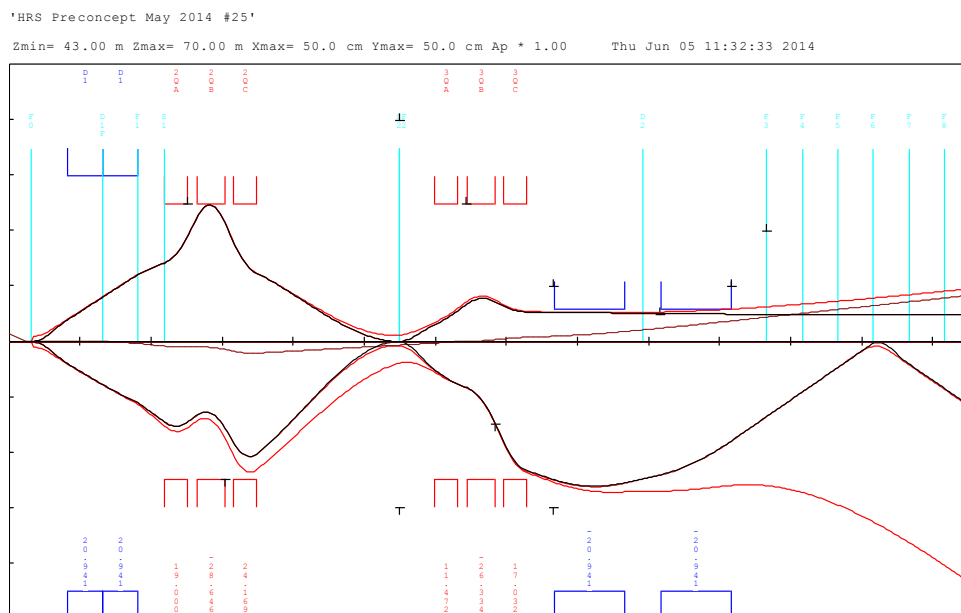
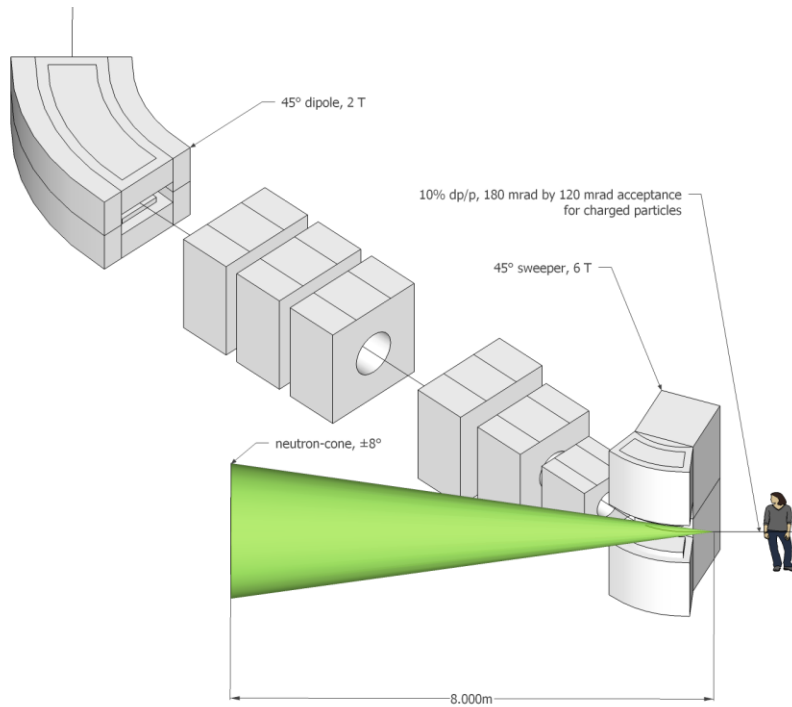


High Rigidity Spectrometer (pre-concept)

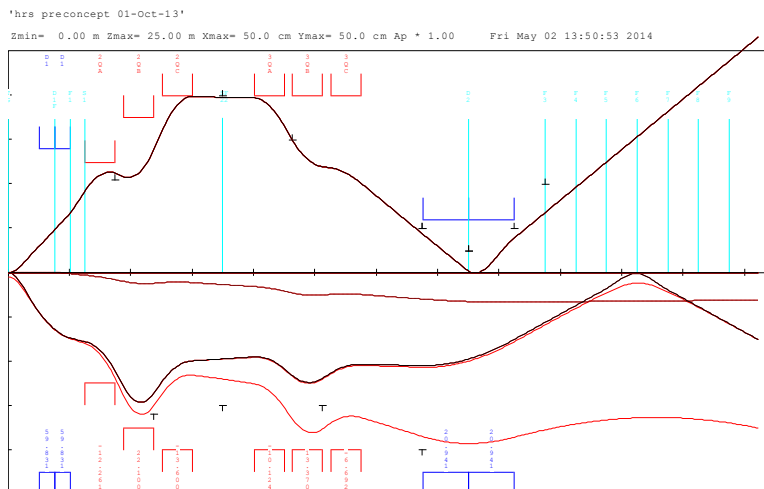
- Consists of one dipole sweeper magnet, two quadrupole triplets, and two dipole magnets.
- Maximum magnetic rigidity: 8 Tm.
- Acceptance: 80 mrad by 80 mrad (charged particles), 10% dp/p, ±6° (vertical, neutrons)
- Image after sweeper; Resolution: 5000; dispersion at focal plane: 7 cm/%
- Sweeper: 30° bending angle, 2.1 T max. field, 60 cm gap. Possibly H-type magnet.
- Main dipoles: 2×30° bending angle, 2.1 T max. field, 12 cm gap.
- Quadrupoles: based on FSQ7/8 design for FRIB separator, ~50 cm max. bore (without multipoles).

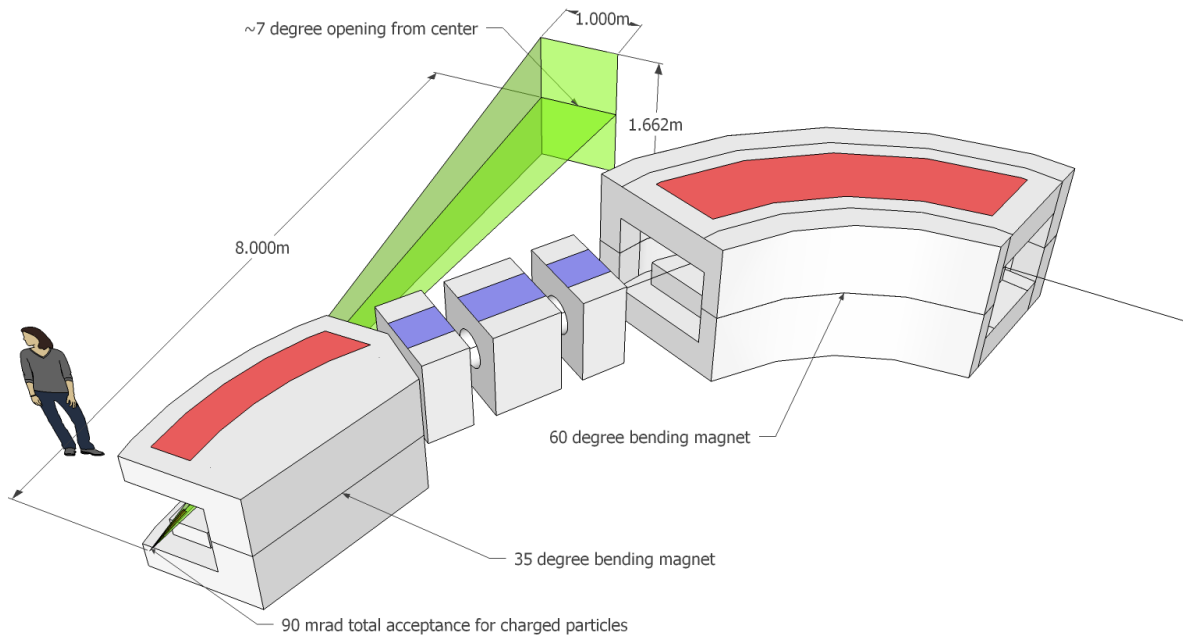




High Rigidity Spectrometer (pre-concept, high-field alternative)

- Consists of one dipole sweeper magnet, two large-bore quadrupole triplets, and one dipole magnet.
- Maximum magnetic rigidity: 8 Tm.
- Acceptance: 120 mrad by 180 mrad (charged particles), 10% dp/p, $\pm 8^\circ$ (neutrons)
- Resolution: 3200; dispersion at focal plane: 6 cm/%
- Sweeper: 45° bending angle, 6 T max. field, 57 cm gap.
- Main dipole: 45° bending angle, 2.1 T max. field, 24 cm gap.
- Quadrupoles: 70 cm max. bore.





High Rigidity Spectrometer (pre-concept, simpler alternative)

- Consists of one dipole sweeper magnet, one quadrupole triplet, and one dipole magnet.
- Maximum magnetic rigidity: 7 Tm.
- Acceptance: 90 mrad by 90 mrad (charged particles), 10% dp/p, $\pm 8^\circ$ (neutrons, vertical)
- Resolution: 5500; dispersion at focal plane: 5.5 cm/%
- Sweeper: 35° bending angle, 2.2 T max. field, 44 cm gap.
- Main dipole: 60° bending angle, 2.1 T max. field, 40 cm gap.
- Quadrupoles: 42 cm max. bore.

