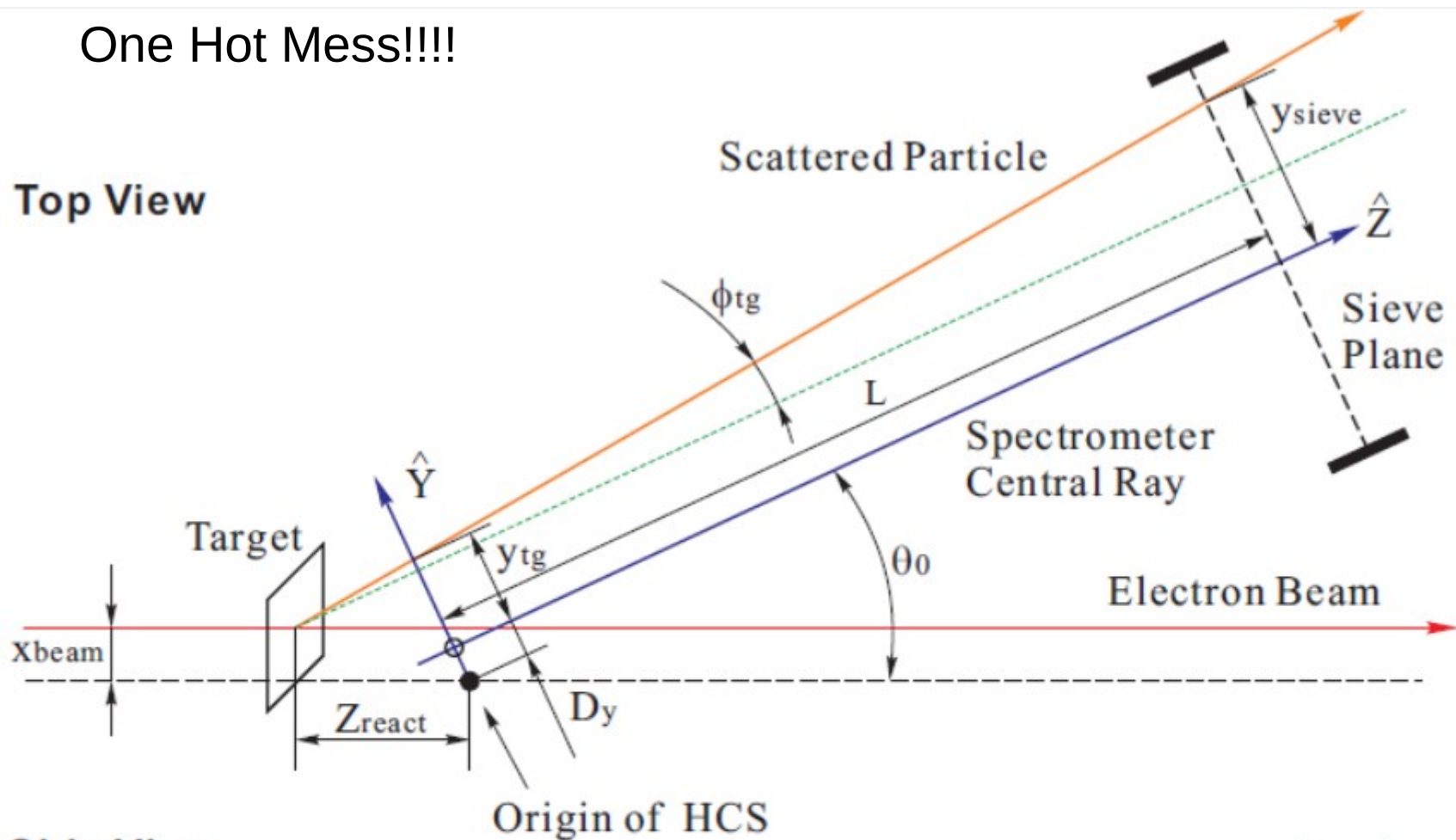


Coordinates

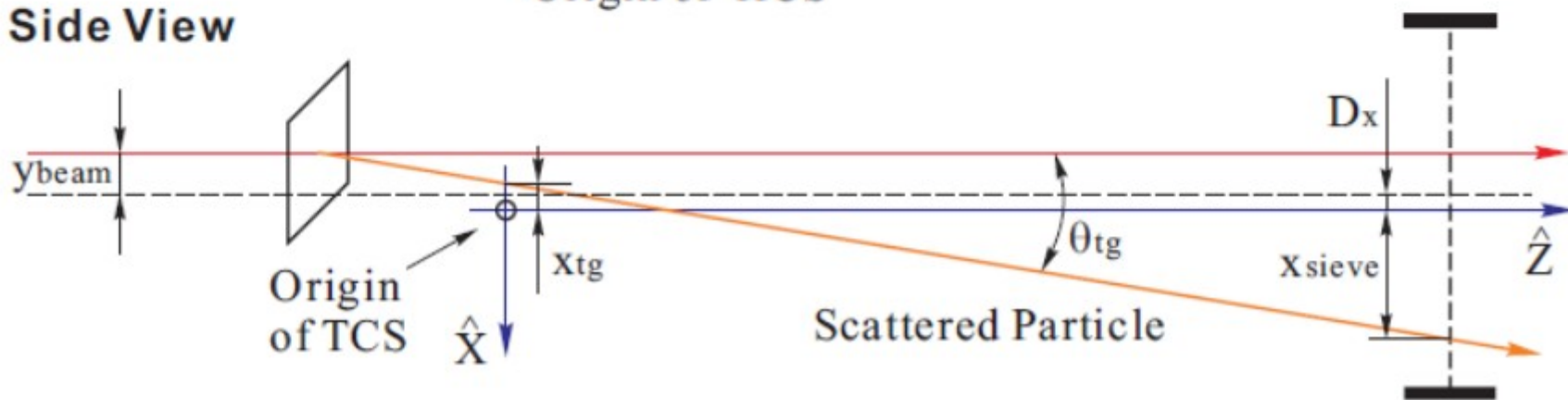
- Beam
- Hall a(HCS)
 - the origin of the HCS is at the center of the hall, which is defined by the intersection of the electron beam and the vertical symmetry axis of the target system
- Target (TCS)
 - The origin of the TCS is defined to be the point on the z_{tg} axis at a distance Z_0 from the sieve surface

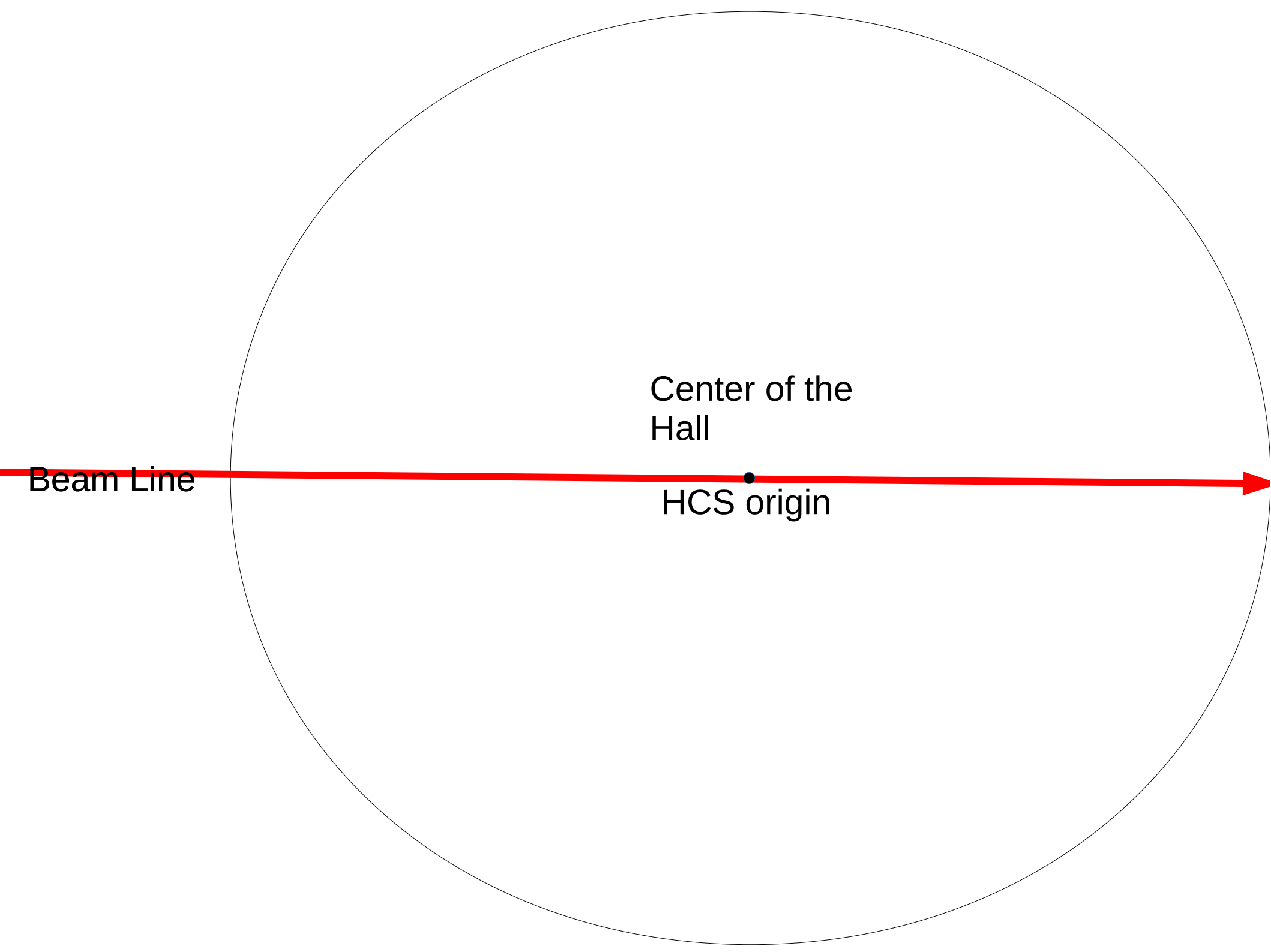
One Hot Mess!!!!

Top View



Side View

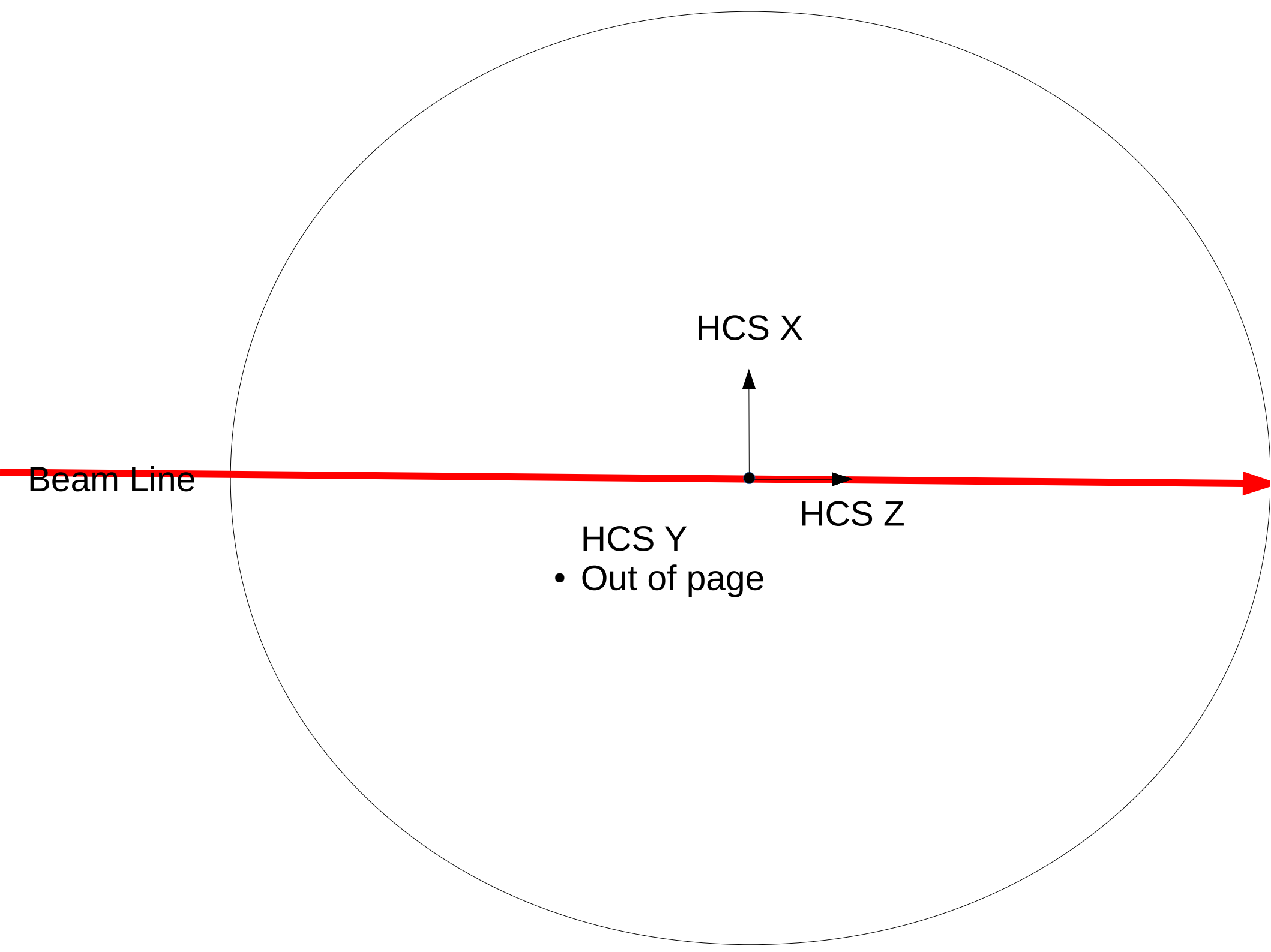




Beam Line

Center of the
Hall

HCS origin



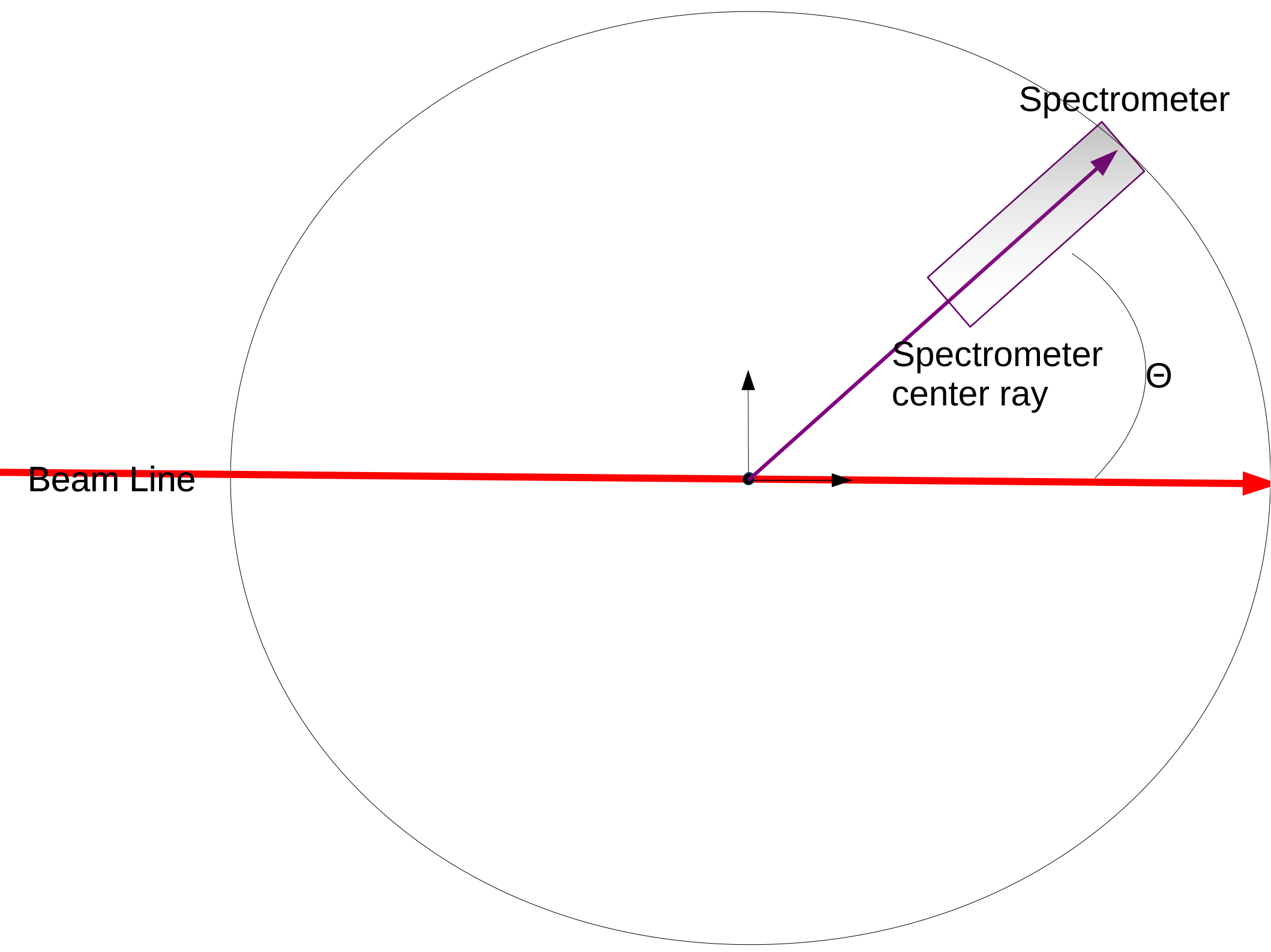
Beam Line

HCS X

HCS Z

HCS Y

• Out of page



Beam Line

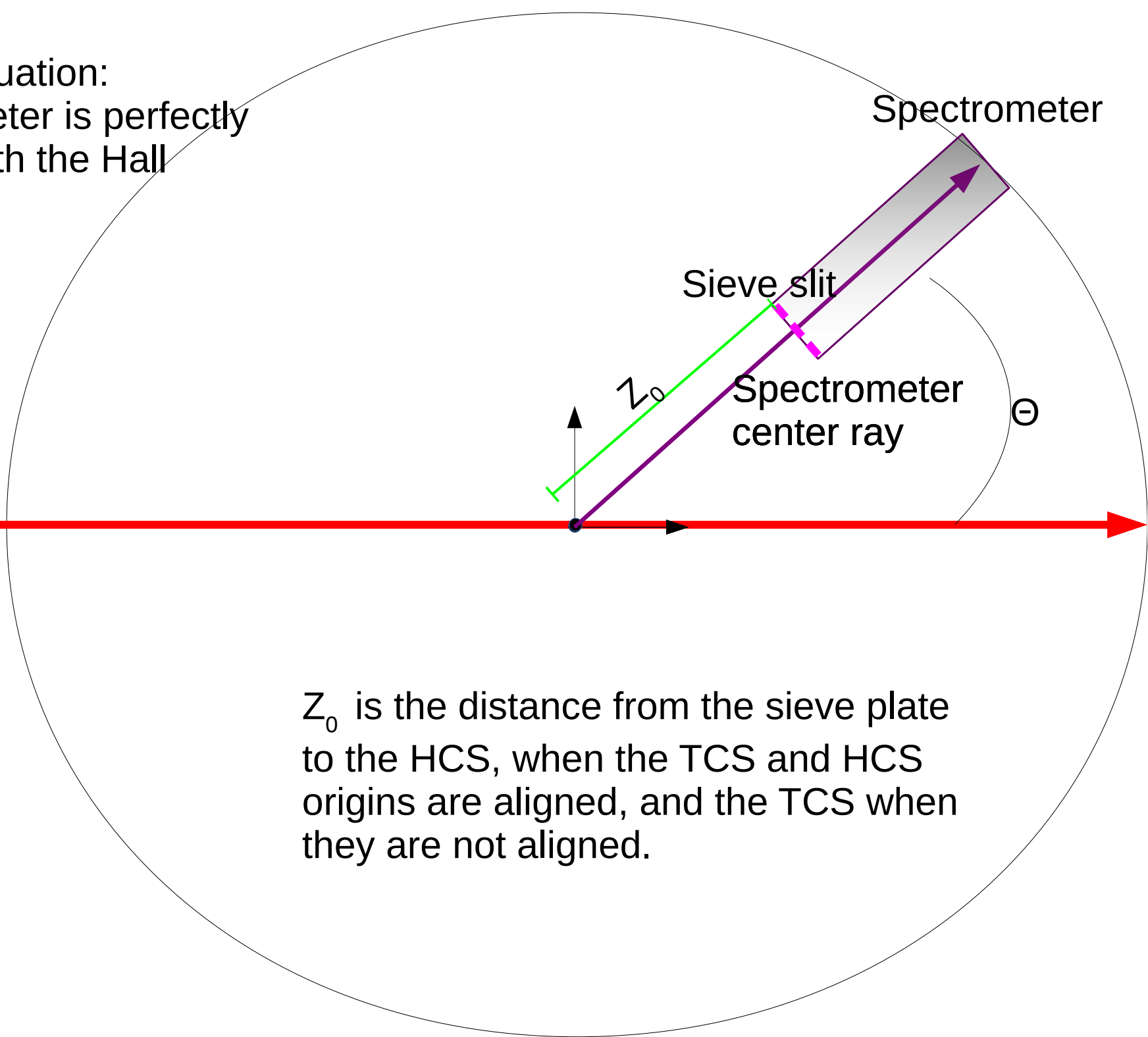
Spectrometer

Spectrometer
center ray

Θ

Perfect situation:
Spectrometer is perfectly
aligned with the Hall

Beam Line



Spectrometer

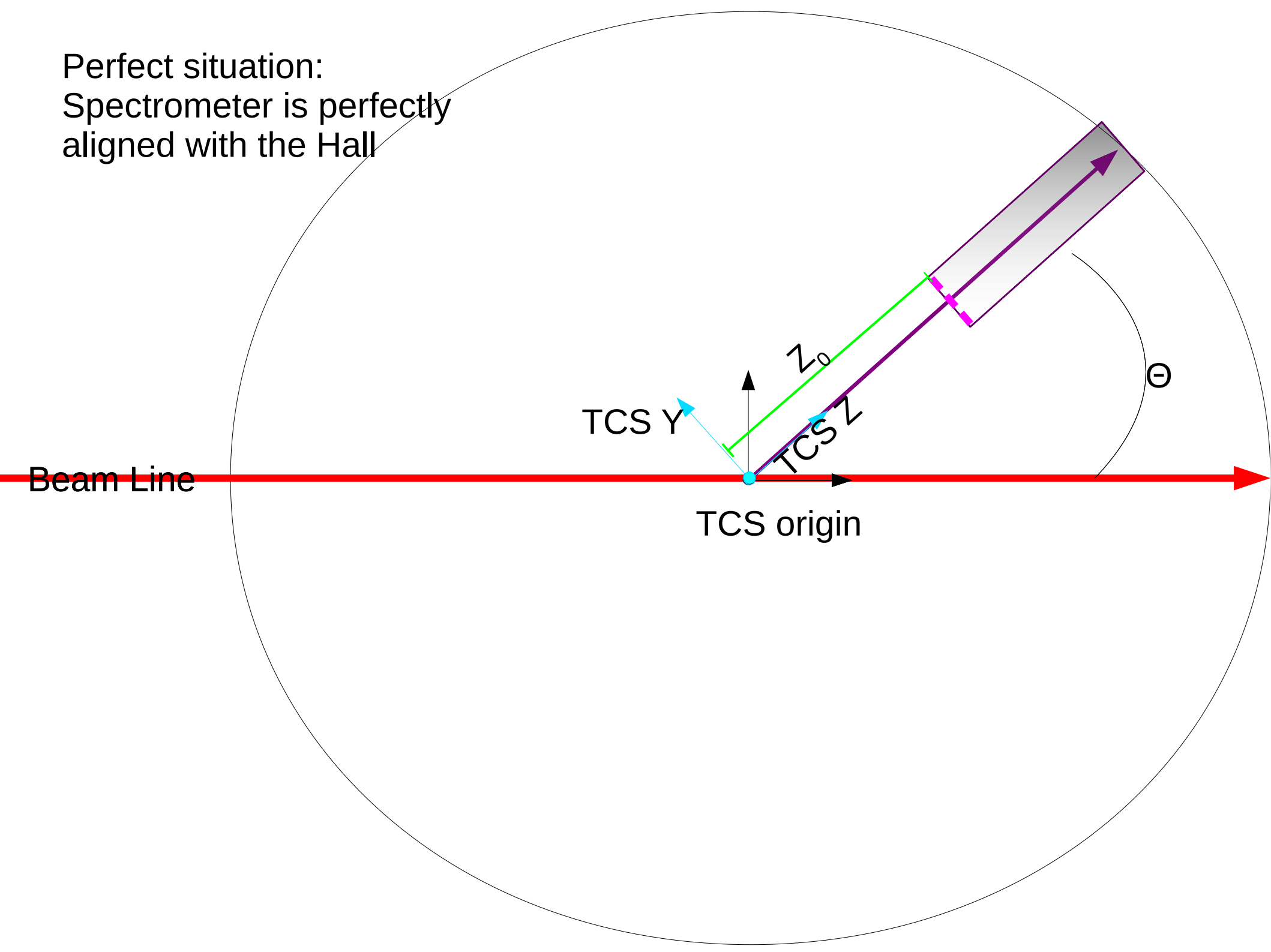
Sieve slit

Spectrometer
center ray

Θ

Z_0 is the distance from the sieve plate
to the HCS, when the TCS and HCS
origins are aligned, and the TCS when
they are not aligned.

Perfect situation:
Spectrometer is perfectly
aligned with the Hall



- No longer perfect, the detector is not aligned with the hall

Beam Line

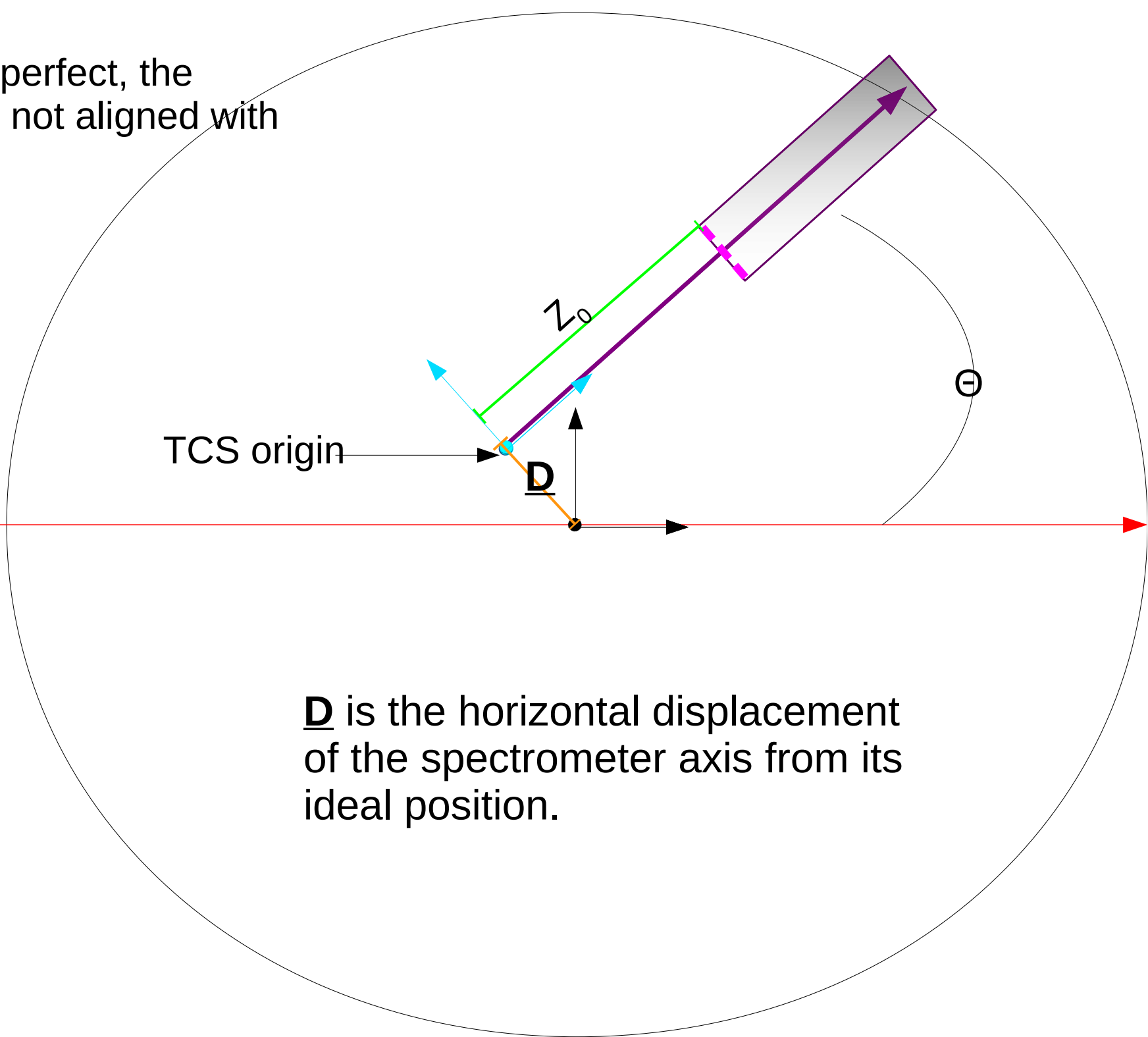
TCS origin

z_0

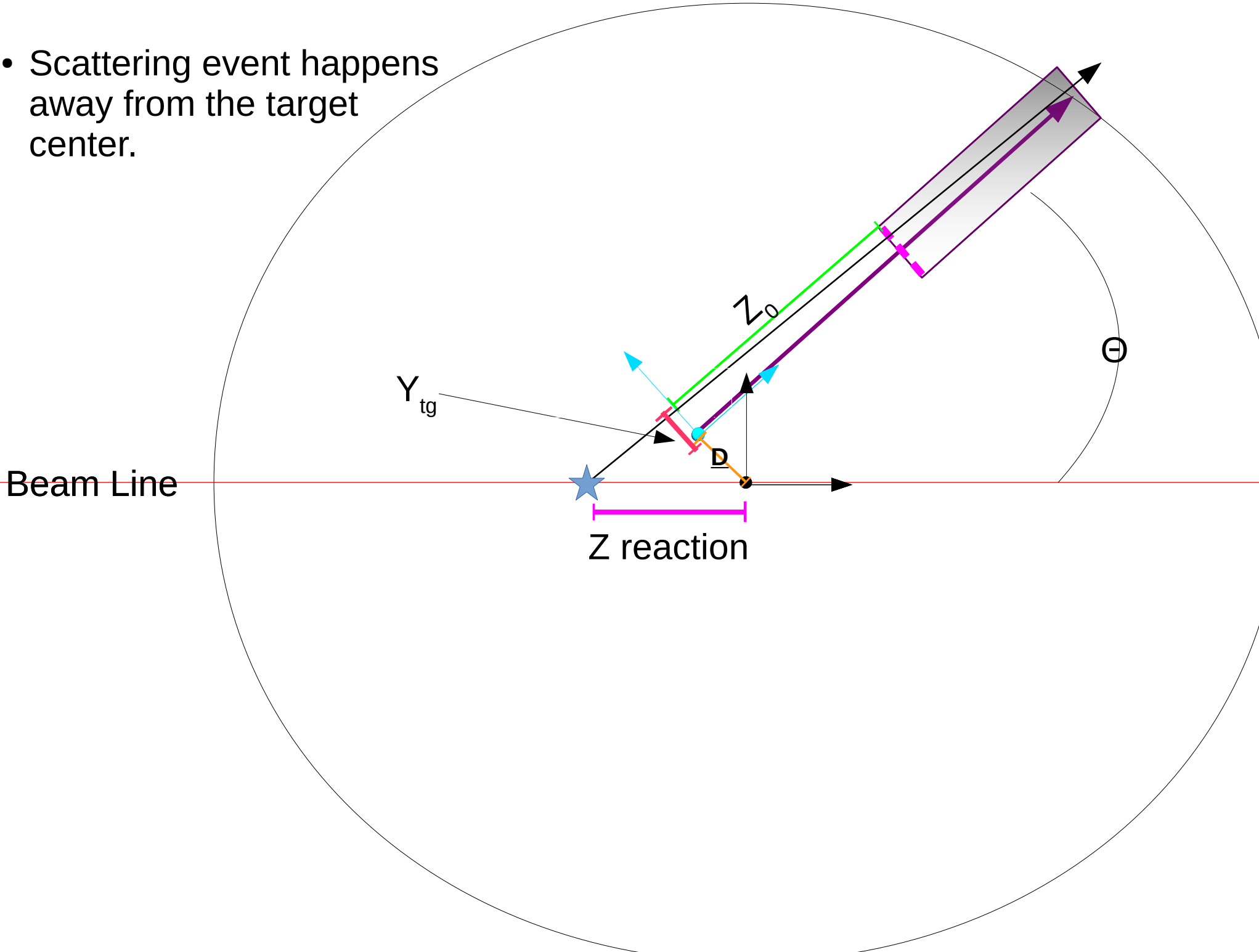
\underline{D}

\ominus

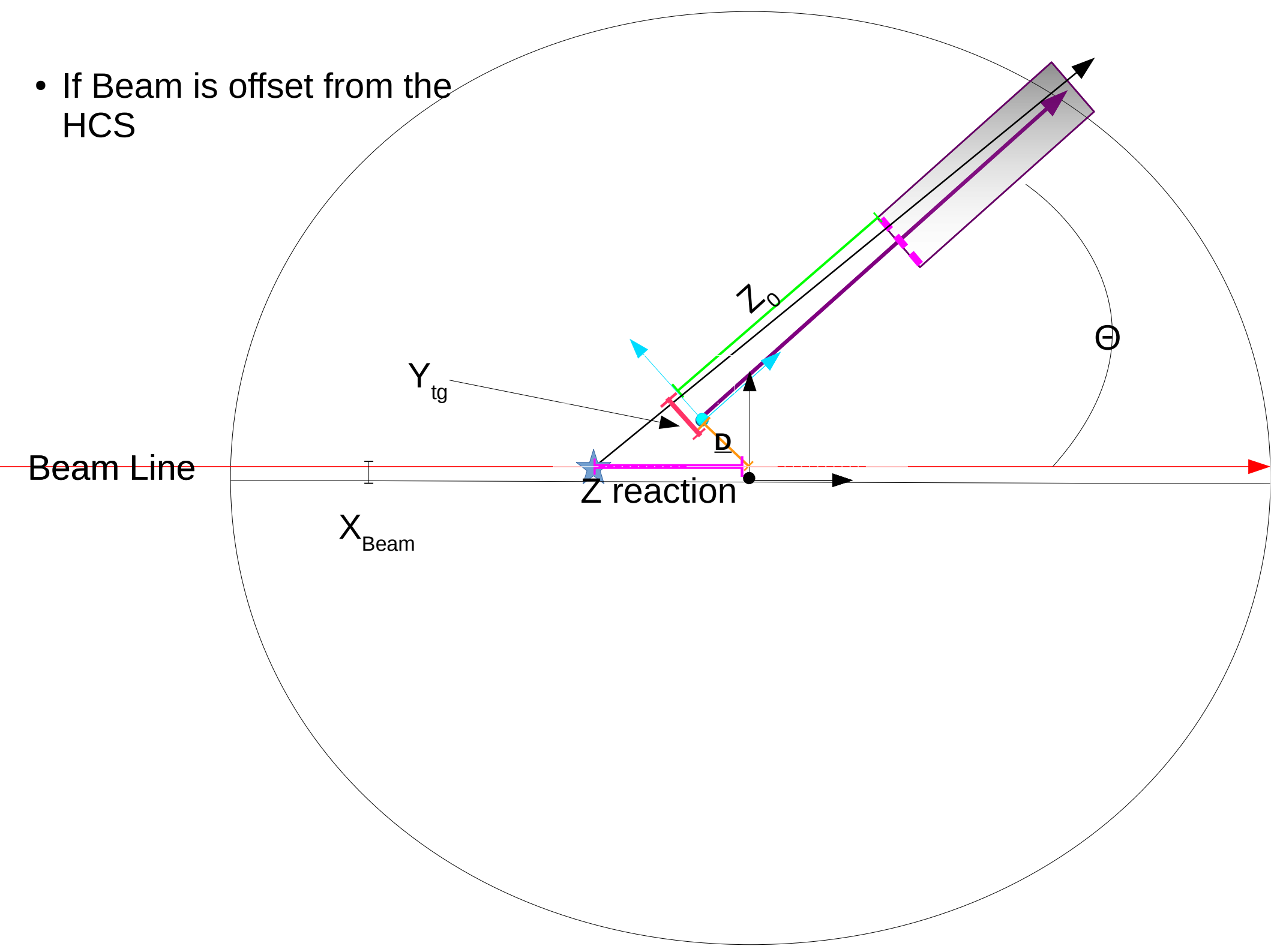
\underline{D} is the horizontal displacement of the spectrometer axis from its ideal position.



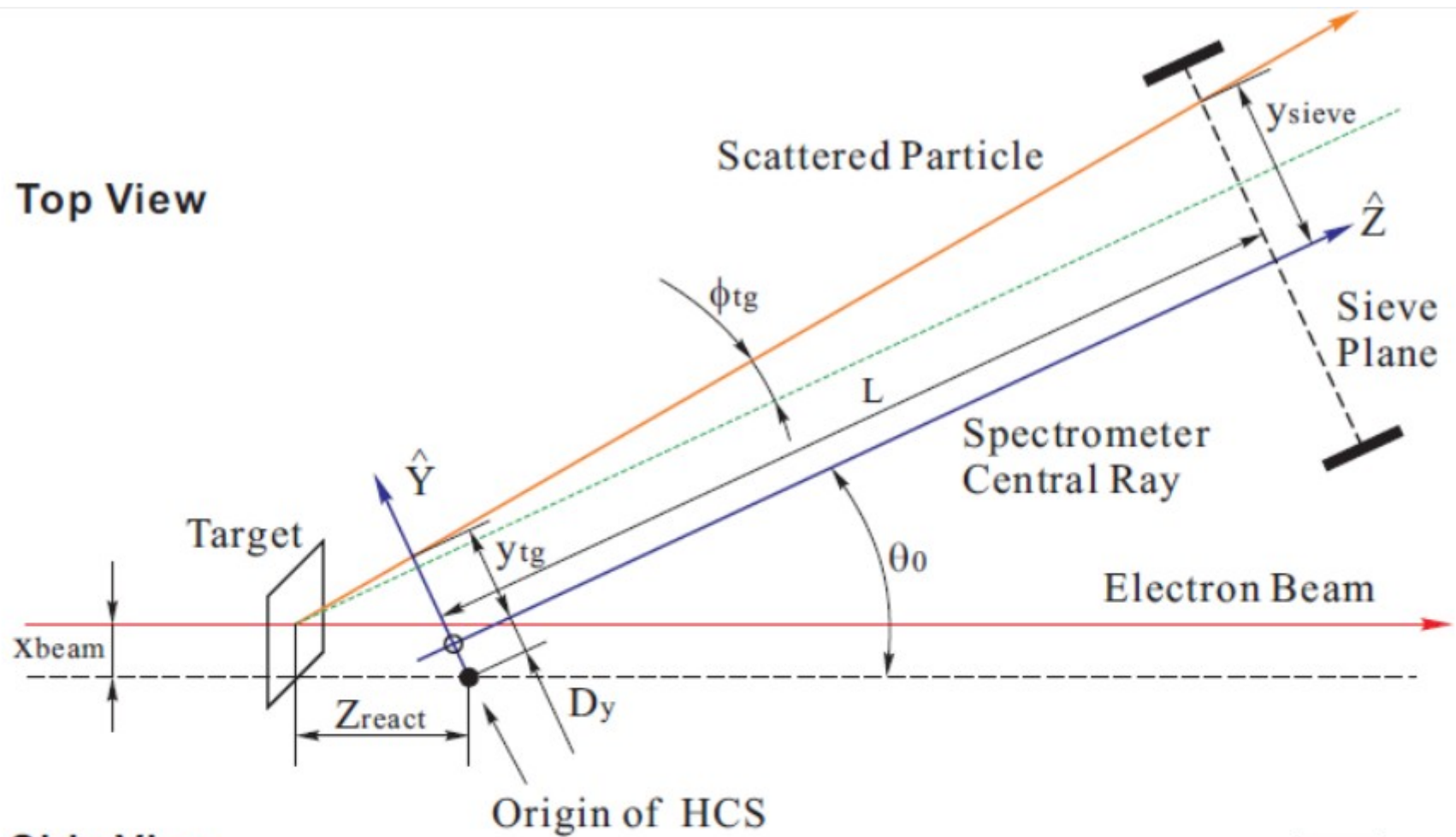
- Scattering event happens away from the target center.



- If Beam is offset from the HCS



Top View



Side View

