

1) Parallel-to-point focusing optics from the crossing to the detectors.

Particles scattered in the same direction are brought together to the same point on the detector independently of the position at the IP

2) the clearance with respect to the beam have to be proportional to the r.m.s beam size at the detector place.

a) At the SPS/UA4 : $k = 15-20$

b) Technical reasons : 1.5 mm

3) the r.m.s beam divergence at the IP have to be smaller than the scattering angle.

4) When we are measuring in one transverse plane, there is no strict requirement for the other plane, however to ensure the robustness of the measurement is desirable to have:

$$L_{\text{eff}x} \approx L_{\text{eff}y} \quad (0.5-2)$$

5) The measurement of the total cross section requires only a very modest luminosity