

Sensors currently implemented in dd4hep:

eRICH

- based on Hamamatsu S13361-3050AE-08
 - geometry: 2.5 x 2.5 x 0.15 cm
 - 3876 sensors count
 - = 2.4 m²

dRICH

- based on Hamamatsu H13700 MAPMT
 - geometry: 5 x 5 x 3.5cm (approx.)
 - 223 sensors per sector
 - 6 sectors
 - = 1338 total
 - = 3.3 m²
- cf. JLEIC design:
 - based on ____?____
 - geometry: 5 x 5 x 1 cm
 - 168 sensors per sector
 - 6 sectors
 - = 1008 total
 - = 2.5 m²

dRICH
single
mirror
config

50 GeV pions

$\theta_{\min} = 5.0$ deg

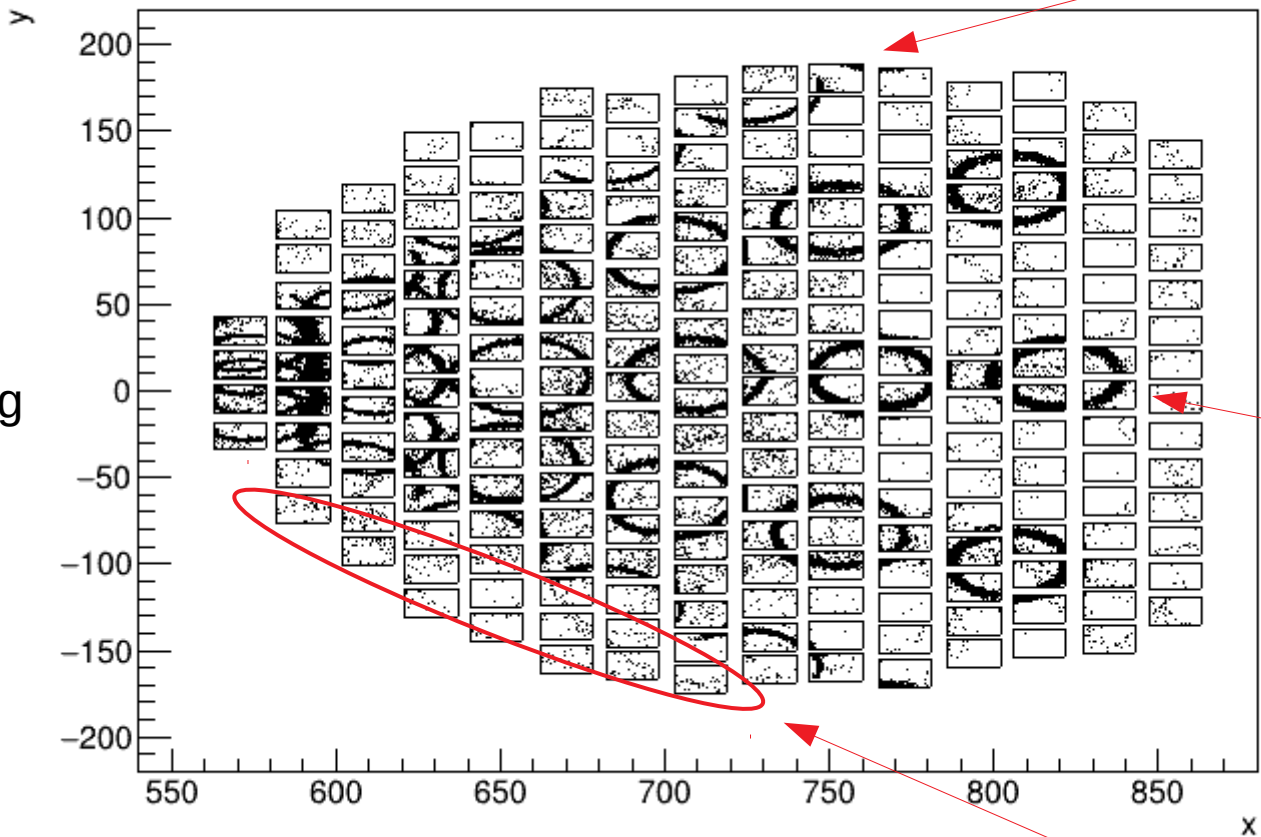
$\theta_{\max} = 31.9$ deg

$\eta_{\max} = 3.13$

$\eta_{\min} = 1.25$

ϕ restricted to
one sector

pixel hits sector 0



losses of gas
rings at low η
along sector
boundaries

(could be improved;
we had much better
coverage in prior
geometry versions)

could push more
to lower η along
sector bisector

sensors not needed here

6 radial points, 24 azimuthal points ($3+1/2+1/2$ per sector), 30 events/point

dRICH
single
mirror
config

50 GeV pions

$\theta_{\min} = 5.0$ deg

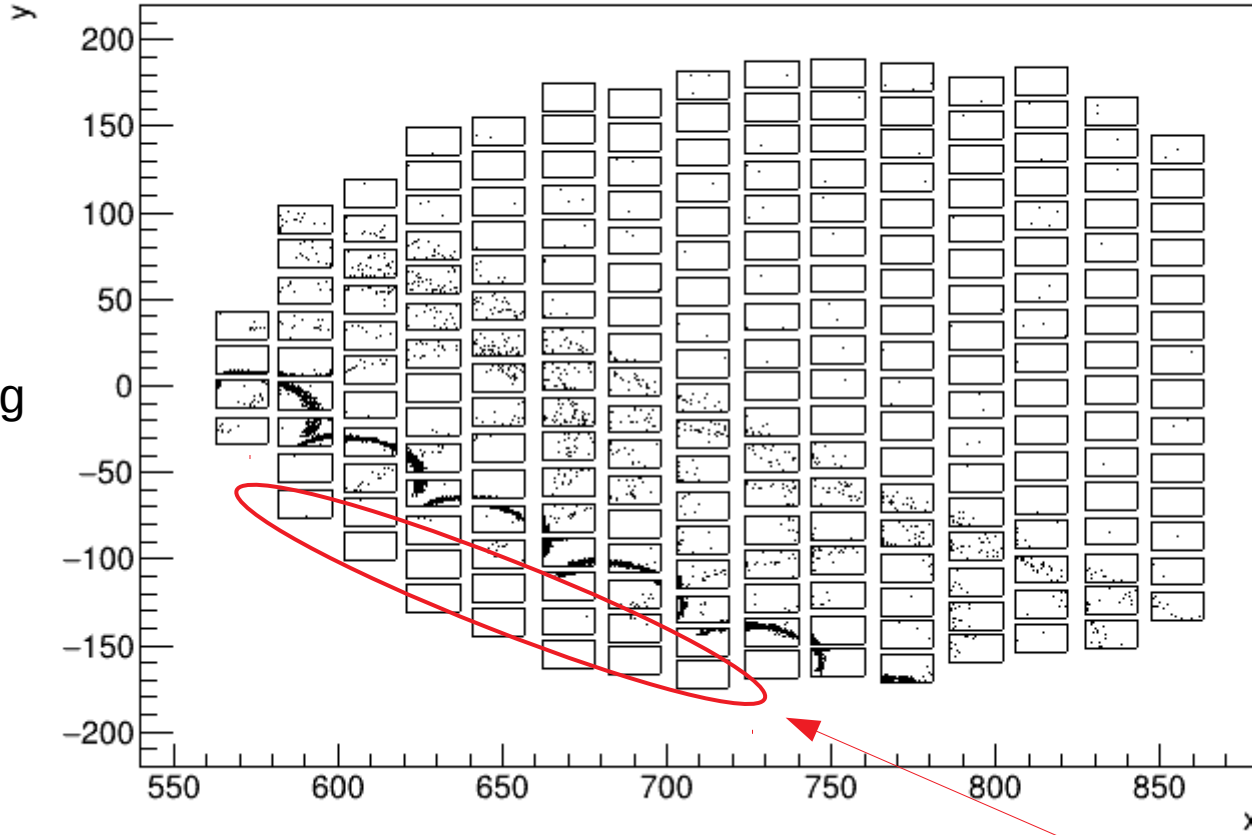
$\theta_{\max} = 31.9$ deg

$\eta_{\max} = 3.13$

$\eta_{\min} = 1.25$

ϕ restricted to
one sector

pixel hits sector 1



neighboring sector,
to show more
clearly hits along
sector boundary

sensors not needed here

6 radial points, 24 azimuthal points ($3+1/2+1/2$ per sector), 30 events/point

dRICH
single
mirror
config

50 GeV pions

$\theta_{\min} = 5.0$ deg

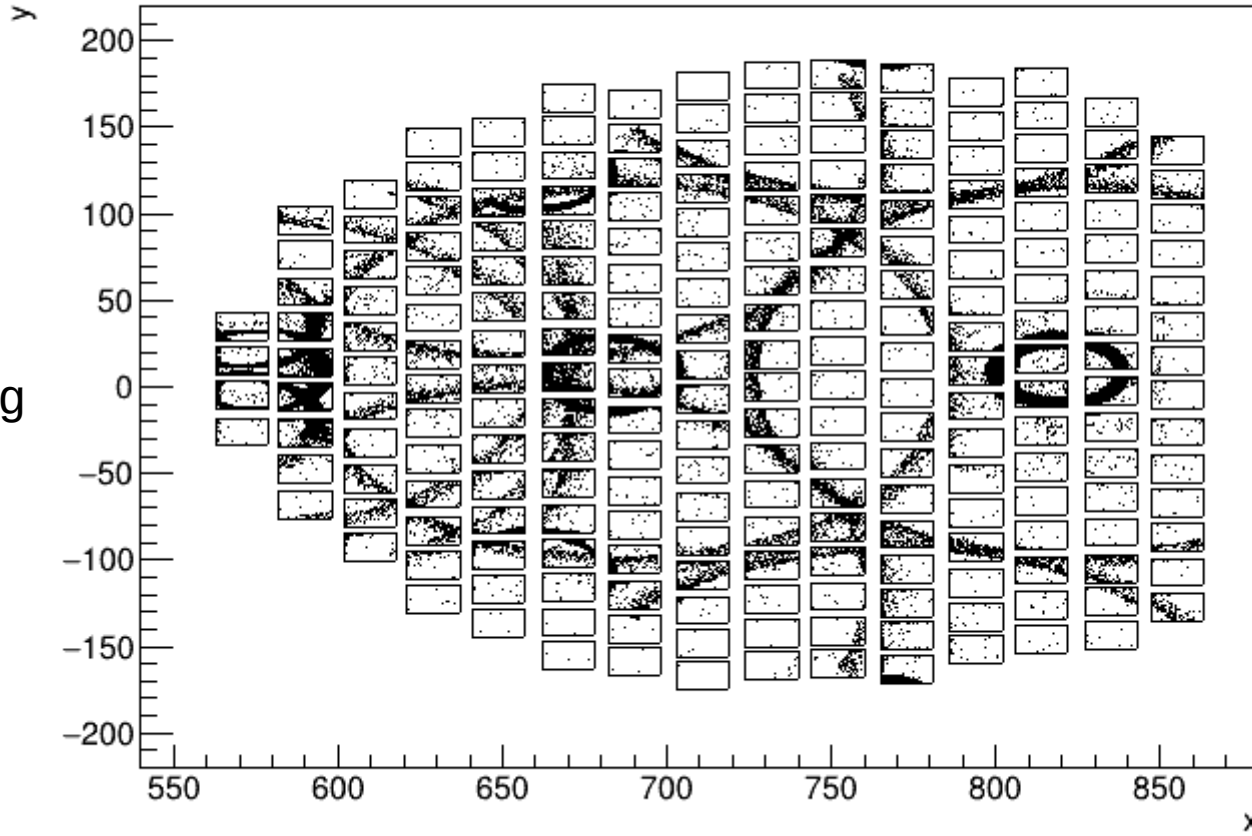
$\theta_{\max} = 31.9$ deg

$\eta_{\max} = 3.13$

$\eta_{\min} = 1.25$

ϕ restricted to
one sector

pixel hits sector 0



less (θ, ϕ) points,
higher stats, to see
aerogel rings more
clearly

3 radial points, 12 azimuthal points ($1+1/2+1/2$ per sector), 300 events/point