2D gas detector

Characteristics of various detectors

Detector		Principle	Field of view	Spacial resolution	Time resolution	Readout time	special requirements
Gas filled detector	1D/2D	Gas electron multiplication	diam. 200 mm To 200x200 mm²	150-500 µm	appr. 100 ns	1 µs	Dedicated electronics

Commissioned developments

0D

Input aperture	1 mm²	diam. 90 mm	diam. 10 µm
Encoding system	wire by wire	Ion chamber/counter	Ion chamber
Count rate	hundreds of Mcps	Mcps/integrating	integrating
Energy range	4-60 keV	4-60 keV	windowless
Position resolution			
Status	operational	operational	operational
Beamline			ID22, ID13

1D

Input aperture	10x100 mm²	10x100 mm²	diam. 8 mm
Encoding system	delay line	delay line	ion chamber Current division on quadropole electrodes
Count rate	100 Kcps	300 Kcps	integrating
Energy range	6-20 keV	6-20 keV	3-100 keV
Position resolution	150 µm @ 8keV	150 µm @ 8keV	< 100 nm
Status	Hasylab operational	operational	
Beamline	ID 10 B		ID15, ID11, BM05

2D

Input aperture	20x20 mm²	10x100 mm²	100x100 mm²	Diam. 180 mm	230x230 mm²	30x60 mm²
Encoding system	delay line	**delay line**	delay line	delay line	delay line	delay line
Count rate	100 Kcps	100 Kcps	300 Kcps	1 Mcps	1 Mcps	300 Kcps
Energy range	6-20 keV	6-20 keV	3-20 keV	4-20 keV	3-24 keV	4-20 keV
Position resolution	50 µm @ 8keV	150 µm @ 8keV	150 µm @ 8 keV	500 µm @ 8 keV	500 µm @ 8 keV	100 µm @ 8 keV
Status	operational	operational	operational	operational	operational	operational
Beamline				Sold to CEA		