Electron detector options silicon

Option	1	2	3	4	5	6
Detector	0.5 mm	1mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm
Electronics	French	French	QWAD	-	French	Qwad
Preamplifier On detector	No	No	No	Yes	No	No
Chamber	Old	Old	Old	New	New	New
Channels	192	192	192	192	192	192
Cost	0	Detector 24 K$	Electronics adapter 5K$	MAROC 25 K$ Chamber 25 K$	25 K$ chamber	8 Qwads 50K$? Chamber 25 K$
Remark	Low efficiency	Straightforward Less work More multiple scattering Still not 100 %	Might work Not optimal Need adapter	Costly Need R&D and expertise (Hall B ?)	Should work Need more shielding grounding	Compatible with diamond

New O doped silicium more radiation hard but need to check rad hardness

Electron detector options diamond

Option	1	2
Detector	0.5 mm	0.5 mm
Electronics	QWad	QWAD
Preamplifier On detector	No	No
Chamber	New	Lower new
Channels	192	64
Cost	Detector 60 K$ Chamber 25 K$ QWAD 50 K$?	6 K$
Remark	Rad hard Costly Small signal	Reuse Hall C detector

Best option should work For moller

Poor man's low risk option

Electron detector options CMOS

Option	1	2
Detector	0.5 mm	0.07 mm
Electronics	QWad	QWAD
Preamplifier On detector	Yes	YES
Chamber	New	New
Channels	192	192
Cost	? New chamber 25 K$	?
Remark	Need Low voltage and cooling No expertise Best amplifier possible Need specific design to make it fast (Existing design focused on large number of channels readout slowly) Radiation hardness ?	Need Low voltage and cooling No expertise Best amplifier possible Need specific design to make it fast (Existing design focused on large number of channels readout slowly) Radiation hardness ?

Other options

- Low pressure gaseous detectors
  - GEM
  - Ionization chamber
  - GOSSIP
- Scintillating fibers
- Roman pot