



Avalanche Photo-Diode

operated in linear mode ~ AMPLIFIER (Gain ~ 50-500)

!! signal proportional to number of photons deposited

→ used in CMS ECAL

Geiger mode Avalanche Photo-Diode

operate above breakdown voltage (Gain ~ $1 \cdot 10^6$)

!! It's a BINARY device

→ for practical application use ARRAY of single Geiger mode Avalanche Photo-Diodes:
the Silicon Photo-Multiplier