

PD direct ionization

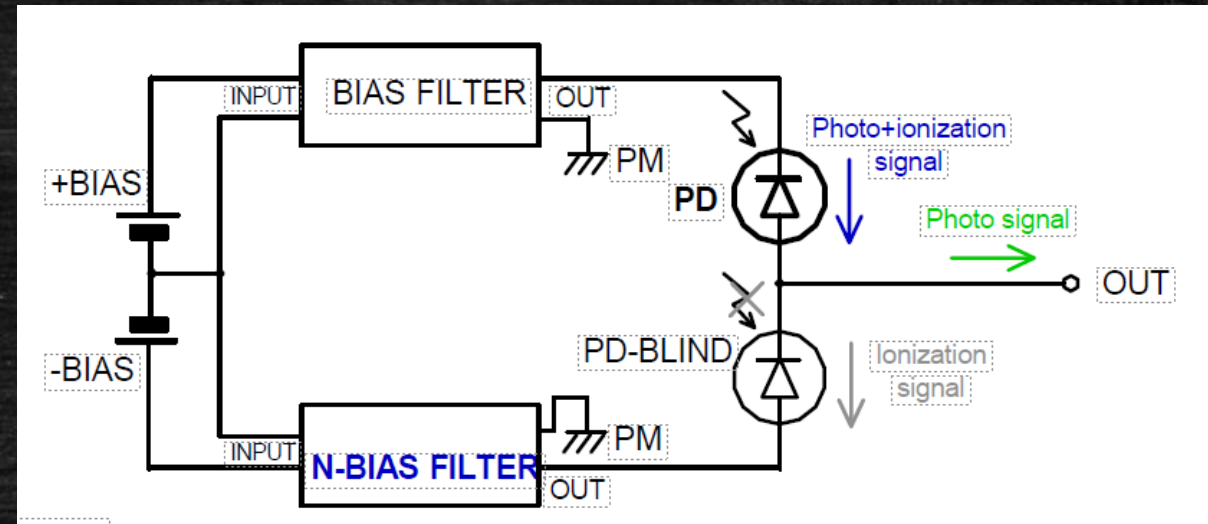
First prototype test (Careggi, 04/07/23)

Main idea

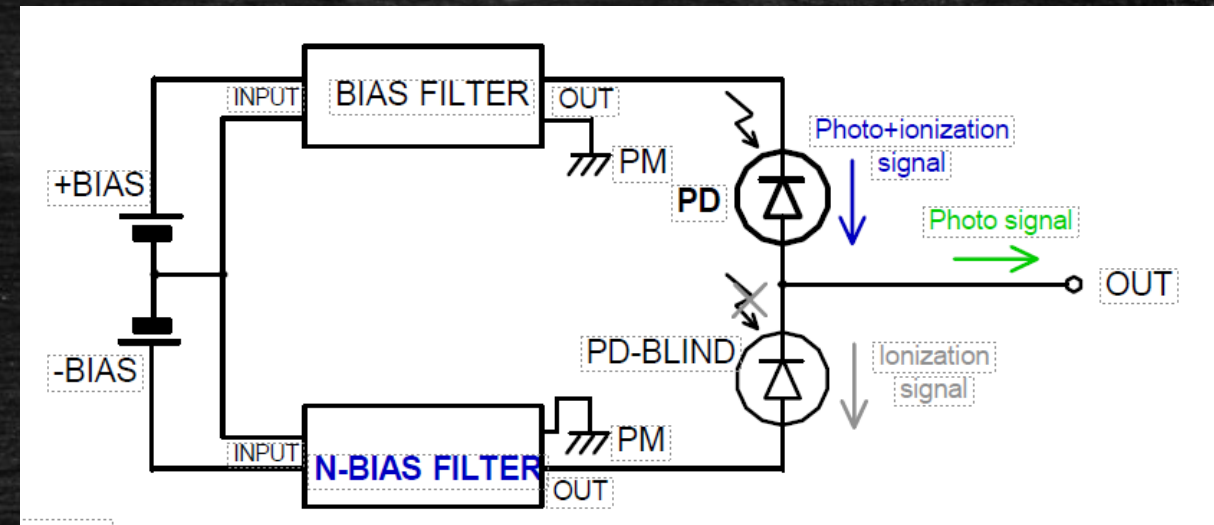
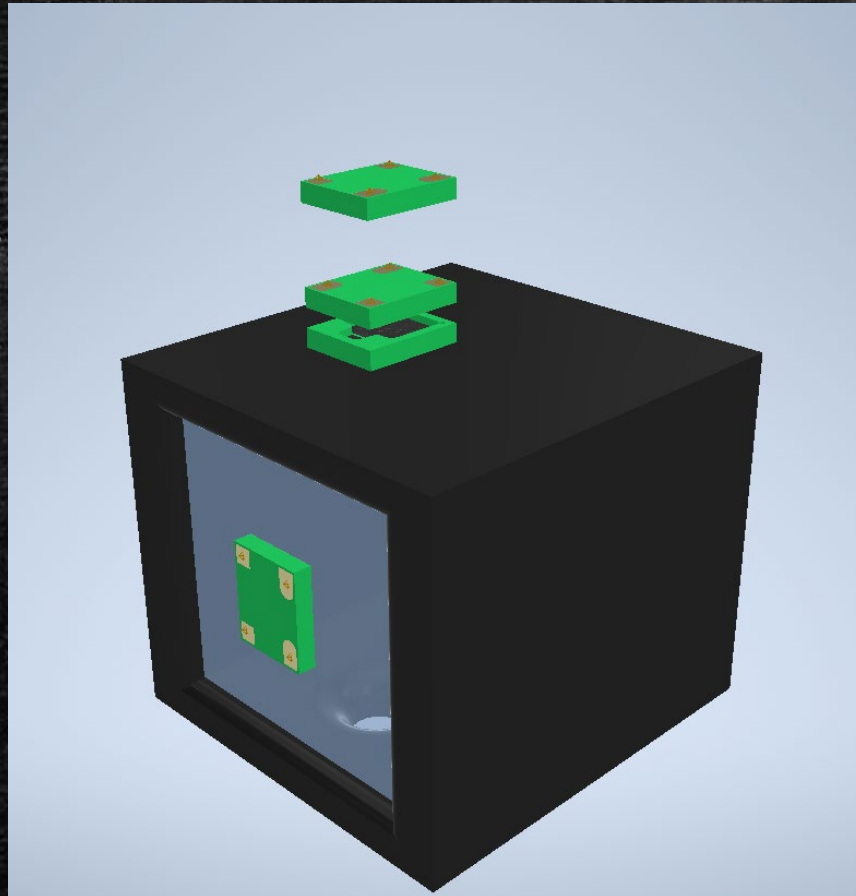
Use two PDs at the same readout channel. The first one is connected in standard mode: anode +40 V, cathode 0V - readout, second one's anode is connected to 0V - readout and cathode to - 40V.

First PD is sensitive to both, light and ionization signals. Second one is blind, it is sensitive to ionization only and generates the signal of reverse polarity.

This signal of reverse polarity is autocanceled with ionization signal of the first PD.



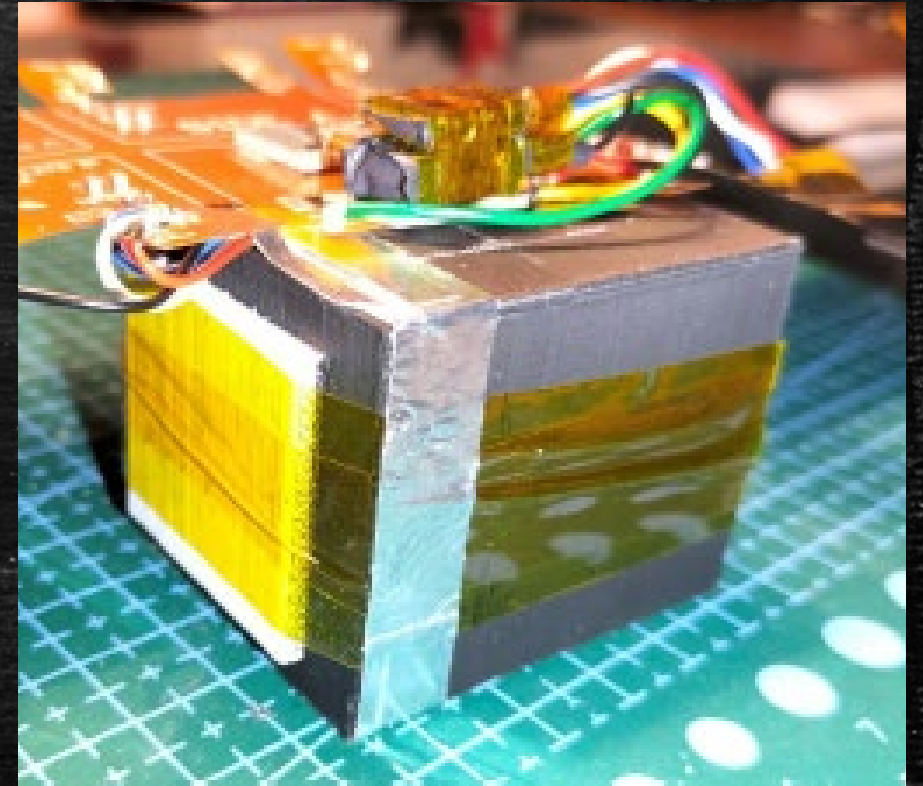
Main idea



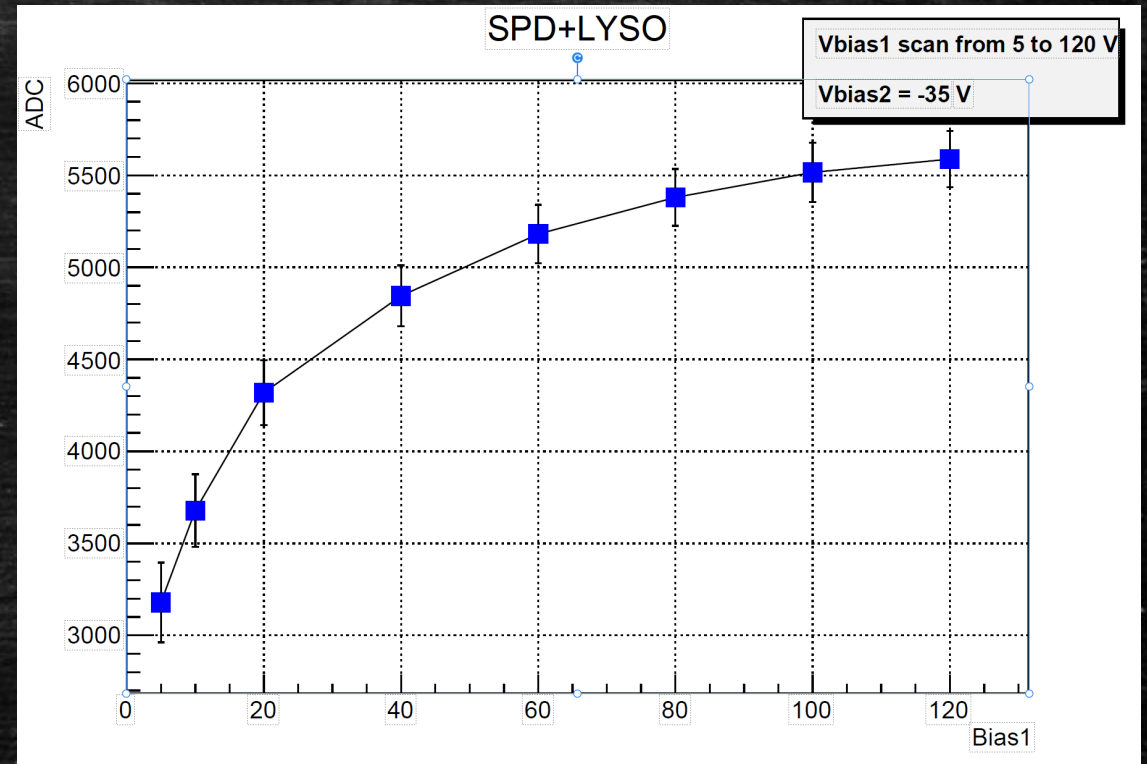
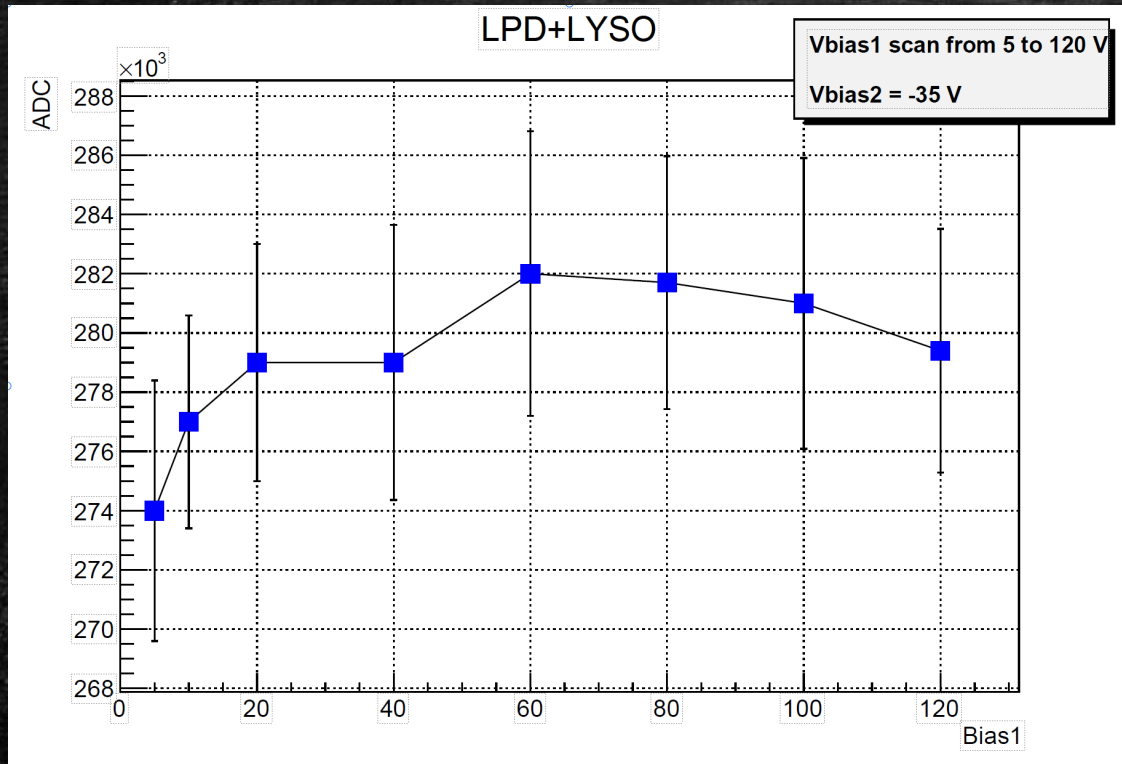
Main idea

Sensor	PD
PD + LYSO	LPD, SPD
Blind PD	LPD, SPD
Double Blind	LPD, SPD

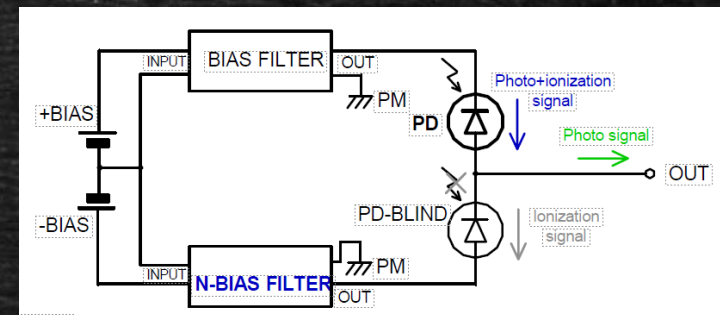
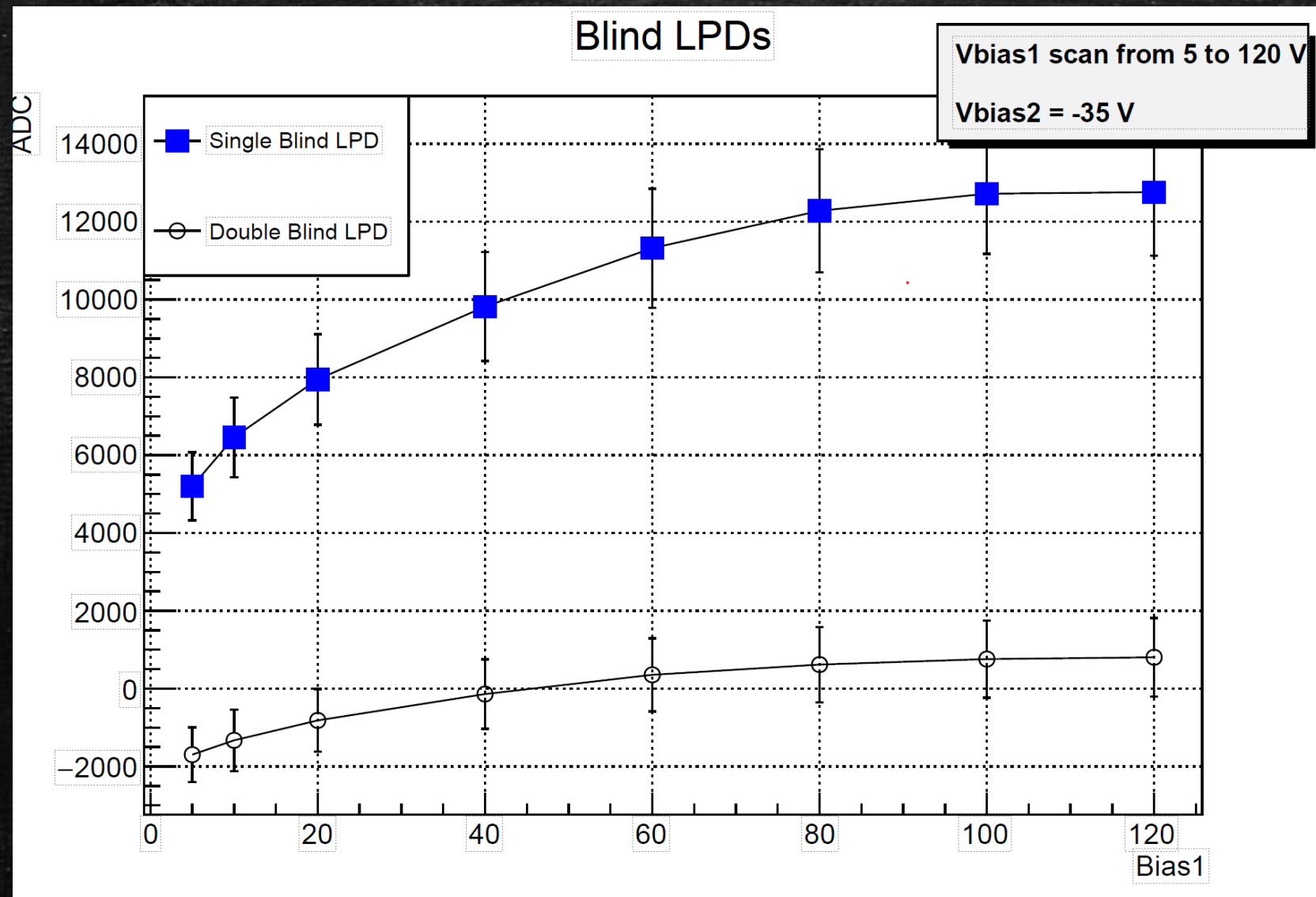
Was tested a Careggi with
gamma beam 6 MeV and
multiplicity ~30k



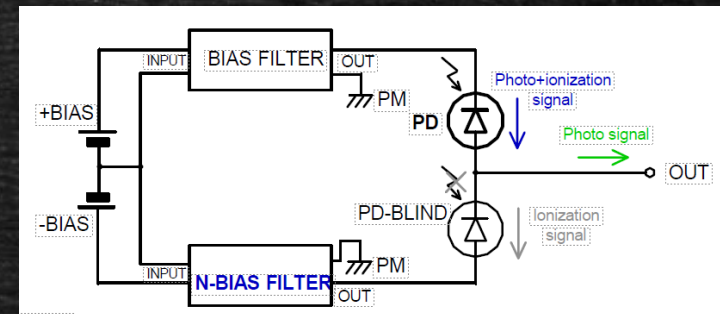
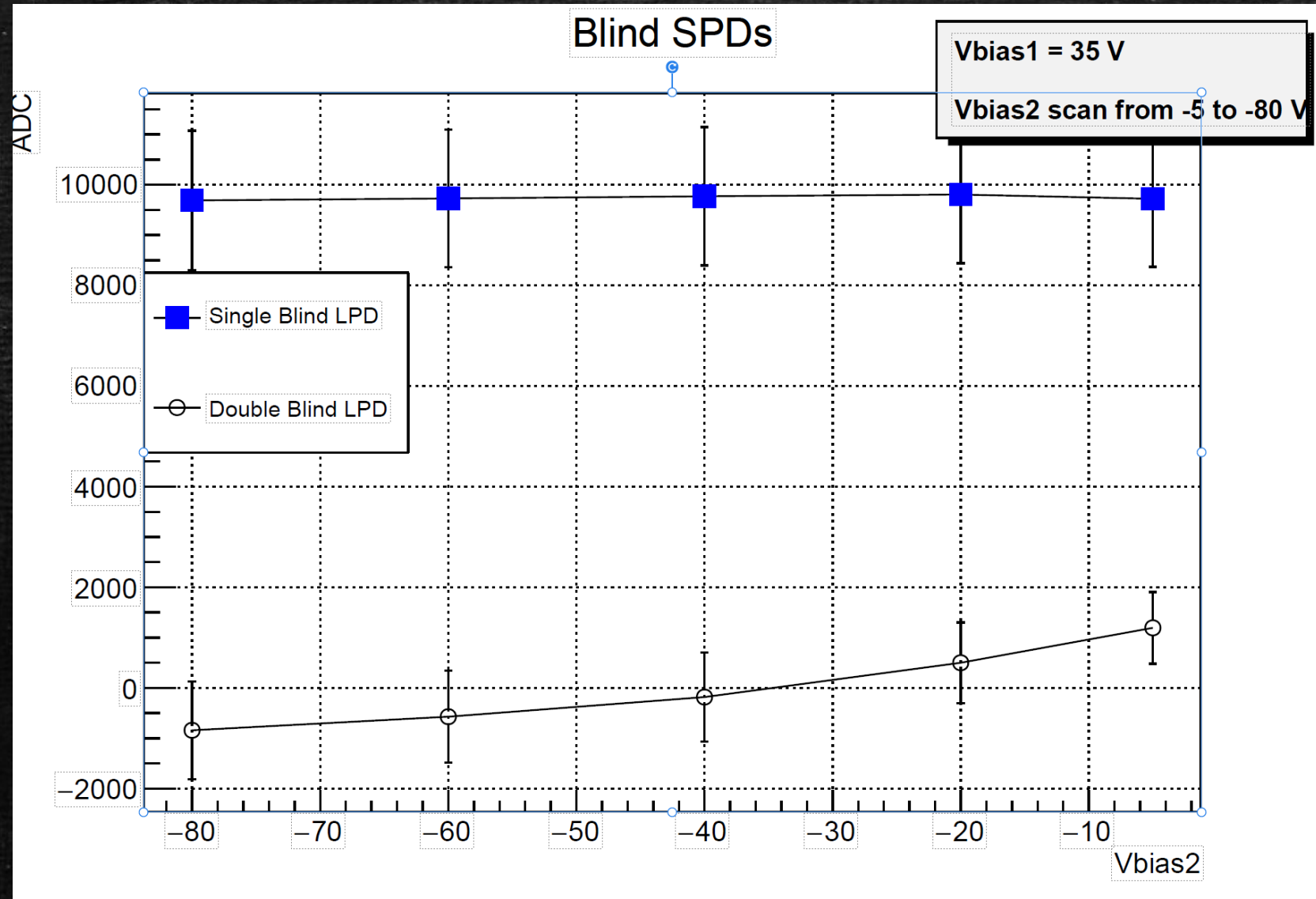
PD + LYSO



Blind LPDs



Blind SPDs



Blind LPDs

