M. Stockner, BD, 13.09.04

expected signal form BLM-cambers at DESY

A(diode)= 0.076 cm2

A(camber)= 64 cm2

Counts per lost proton:

arc: Narc= 58*10^-6 counts/proton 0.076 cm2 figure 5a) circa 920 GeV

ε= 0.5

5.8*10^-5 * 2 / 0.076 = **1.6 * 10^-3 counts/proton cm2**

collimators: Ncoll= 7.6 * 10^-3 counts/proton 0.076 cm2 figure 5b) circa 920 GeV

ε= 0.5

7.6 * 10^-3 * 2 / 0.076 = **2 * 10^-1 counts/proton cm2**

collimator: Ncoll-diod = **1 kHz** Ncoll-mips = 2 kHz

Nmax-camber = 2000 / 0.076 * 64 = 1.6 MHz

100 ion pairs/cm => 20cm: 2000 ion pairs/mips

I = 1.6 * 10^6 * 1.6 * 10^-19 * 2000 = **0.5 nA**

arc: Narc-diod = **circa 1 Hz** Narc-mips = 2 Hz

Nmax-camber= 2 / 0.076 * 64 = 1.6 kHz

100 ion pairs/cm => 20cm: 2000 ion pairs/mips

I = 1.6 * 10^3 1.6 *10 ^-19 2000 = **0.5 pA**