

Time Resolution [ps]

$$3\times 3\text{mm}^2 \text{ SiPM: } \sigma_t = \frac{1800 \pm 500 \text{ [ps]}}{N} + \frac{133 \pm 37 \text{ [ps]}}{\sqrt{N}} + 4.0 \pm 0.6 \text{ [ps]}$$

$$1\times 1\text{mm}^2 \text{ SiPM: } \sigma_t = \frac{50 \pm 10 \text{ [ps]}}{N} + \frac{237 \pm 2 \text{ [ps]}}{\sqrt{N}} + 1.2 \pm 0.1 \text{ [ps]}$$

120

100

80

60

40

20

0

$10^2$

$10^3$

Number of Photons

