TR from complex radiators

Ivan Zhutikov

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The discrepancy in TR spectra

Since it was not possible to match the results well for two radiators PE 35 μm AIR 500 μm N = 500 and MY 50 μm AIR 3000 μm N = 90 using the selection of diffusion coefficients manually, it was decided to test them and consider how the χ^2 changes from these coefficients.

Diffusion of the form $\sigma_0 = A \cdot E^{1.7} + B$ was used, where the coefficients A and B varied between A $\in [0.01; 0.1]$ with step 0.01 and B $\in [1; 10]$ with step 1. In total, 100 simulations were performed for each radiator.

Result for MY 50 μm AIR 3000 μm N = 90

The results of the variation for the radiator MY 50 μm AIR 3000 μm
N = 90 and the distribution of photons by the number of pixels with
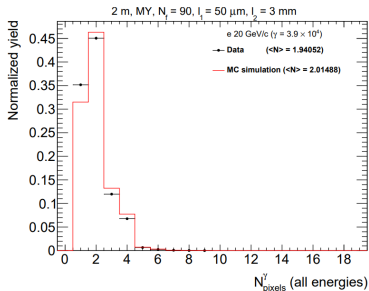the smallest χ^2 (A=0.02, B=1).
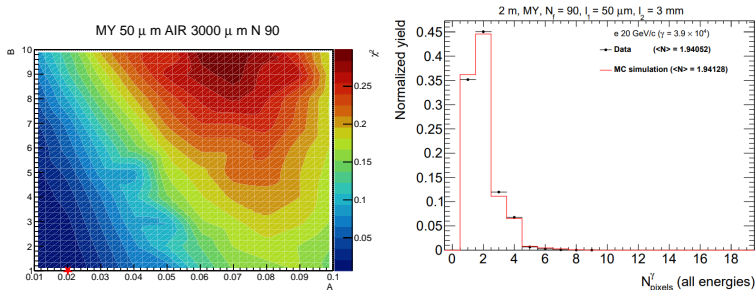
Result for PE 35 μm AIR 500 μm N = 500

The results of the variation for the radiator PE 35 μm AIR 500 μm N = 500 and the distribution of photons by the number of pixels with the smallest χ^2 (A=0.01, B=10).
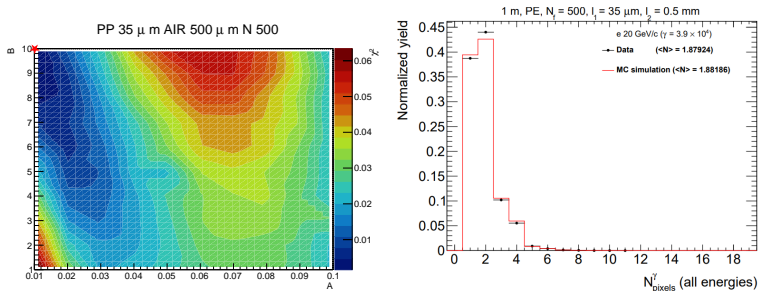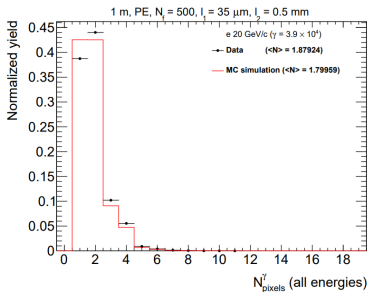
Results for compromise $\sigma_0 = 0.01 \cdot E^{1.7} + 7$

Since the minimum distributions slightly intersect, the following compromise option for diffusion was chosen for which (A=0.01, B=7).

THANKS!