TPOL MC short report

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Geant3 MC tagged as V1-0-initial is used.

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Focus dependence from Geant3 - I

want to compare the focus dependence with Vahagn's MC

change the emittance with two condition to check the Focus dependence

As a default value : ε x=5.4*10**-6 [cm*rad], ε y=2.4*10**-7 [cm*rad]

#1. Vary the ε y from -100% to +100% per 10 % with following constraint

ε y=K* ε x (K : betarton coupling)

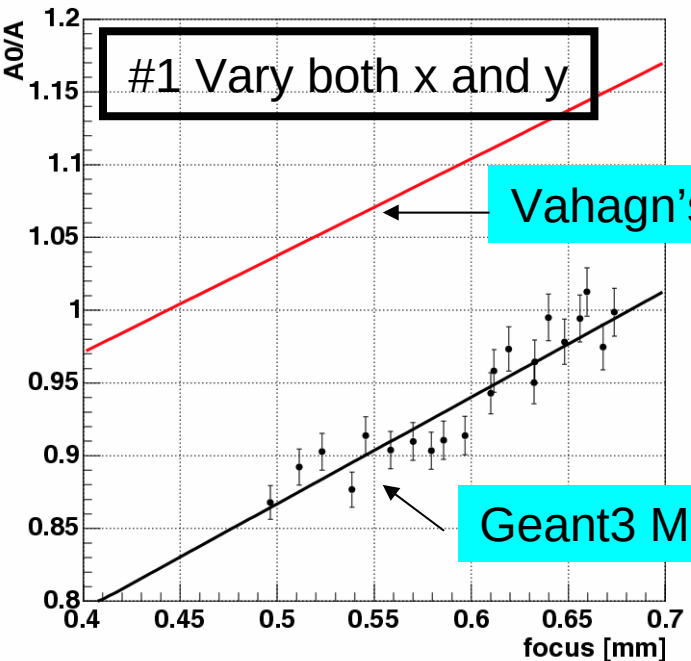
K = 0.04 (ε y(=2.4*10**-7) / ε x(=5.4*10**-6))

#2. Vary the ε y from -100% to +100% per 10 % with ε x fixed at default value

Focus dependence from Geant3 - II

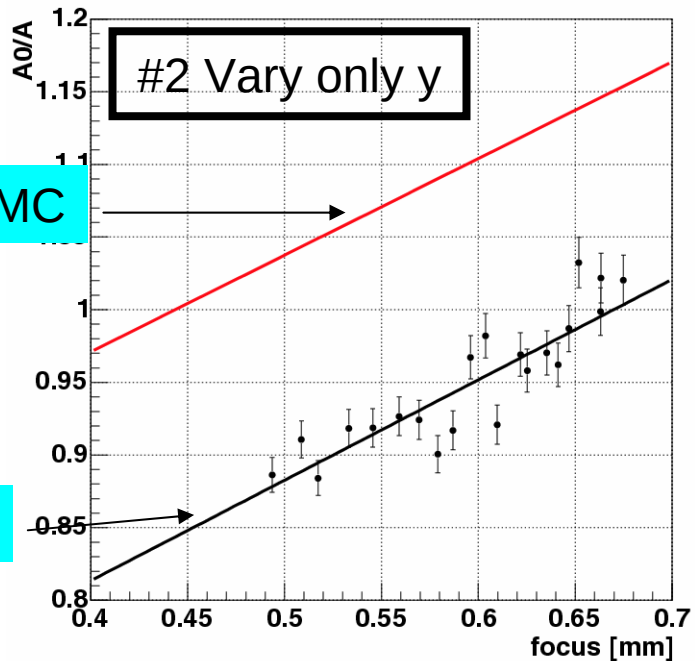
Fit function : $\frac{A_0}{A} = 1 + B(f - f_0)$ (A0 : online AP, A : AP from MC, f : focus)

In Vahagn's MC : **B=0.6649 mm-1, f0=0.44358mm**



B=0.7319±0.0571

f0=0.6817±0.0085



B=0.6910±0.0578

f0=0.6698±0.0083

B is consistent with Vahagn's within error

But large difference of f0.

Need the absolute calibration of Geant3 MC

Summary and Future Plan

Summary

✓Focus dependence from Geant3 seems to be consistent with Vahagn's

Future Plan

✓Try to construct the HERA-I setup in Geant3 to compare the focus dependence more precisely