BGO Pions

Cosenza Group

To Measure Cerenkov light percentage

PMT2

S

C

PMT1

$\theta > 0$
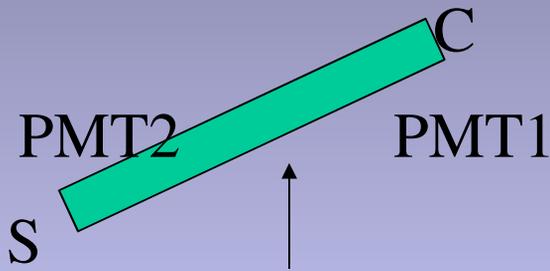
Counts C1 = η cere1 + η α sci1
Counts S1 = γ sci1
filter efficiency -> α
geometrical factors -> η, γ

S

C

$\theta < 0$
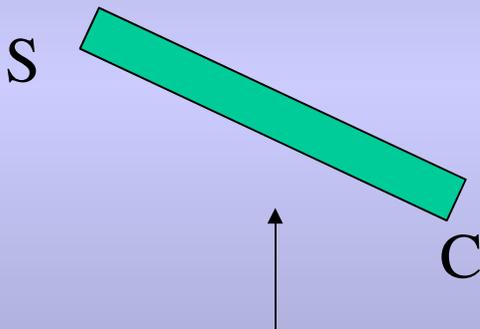
Counts C2 = η α sci2
Counts S2 = γ sci2

Counts C2 / Counts S2 = $\eta\alpha$ / γ = **K**

η cere1 = Counts C1 – K Counts S1

Runs 1681 – 1722 e⁻ results in agree with Rome
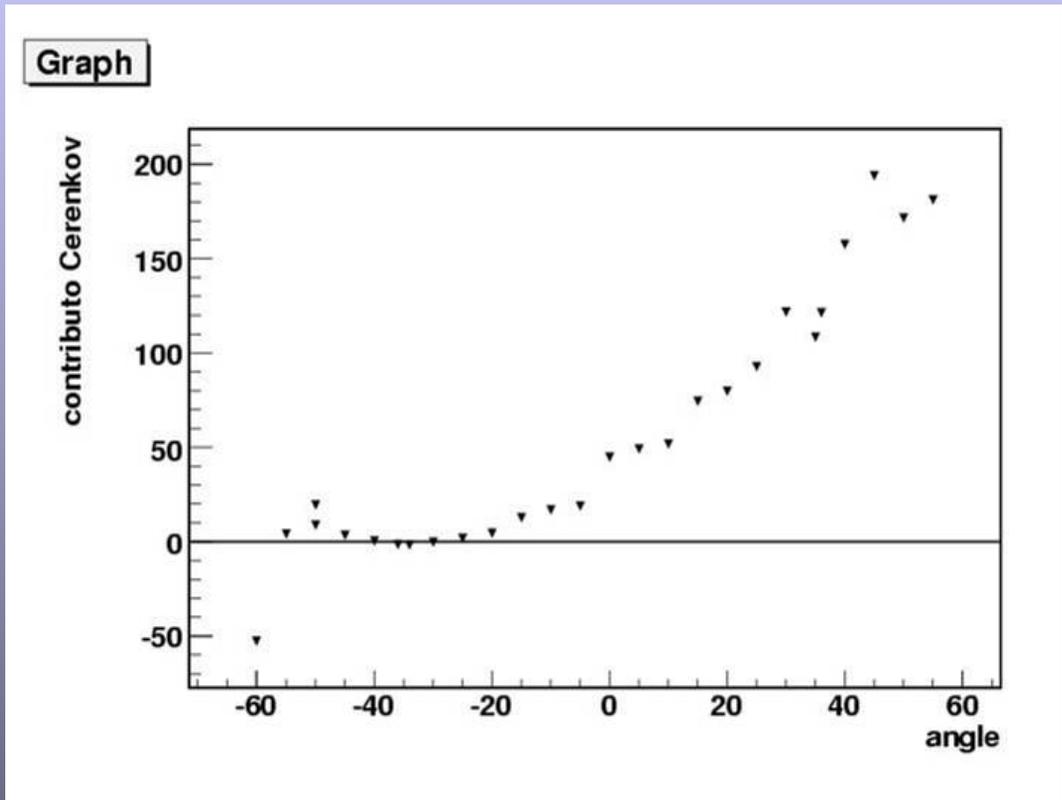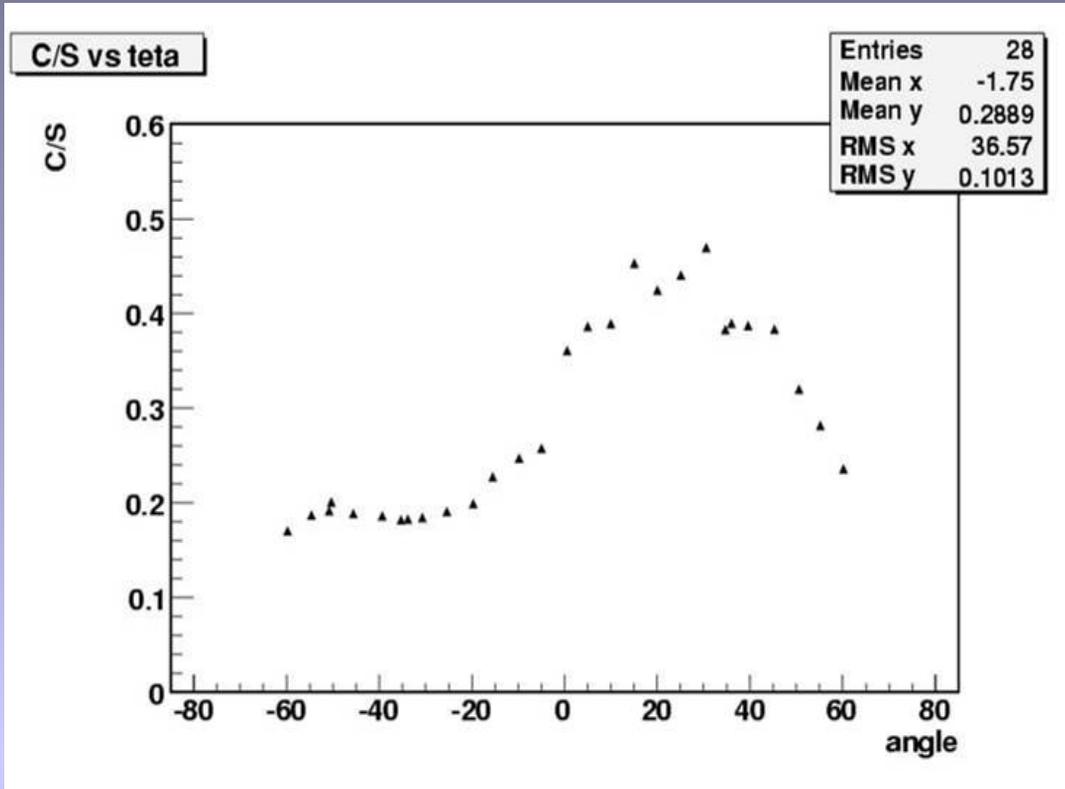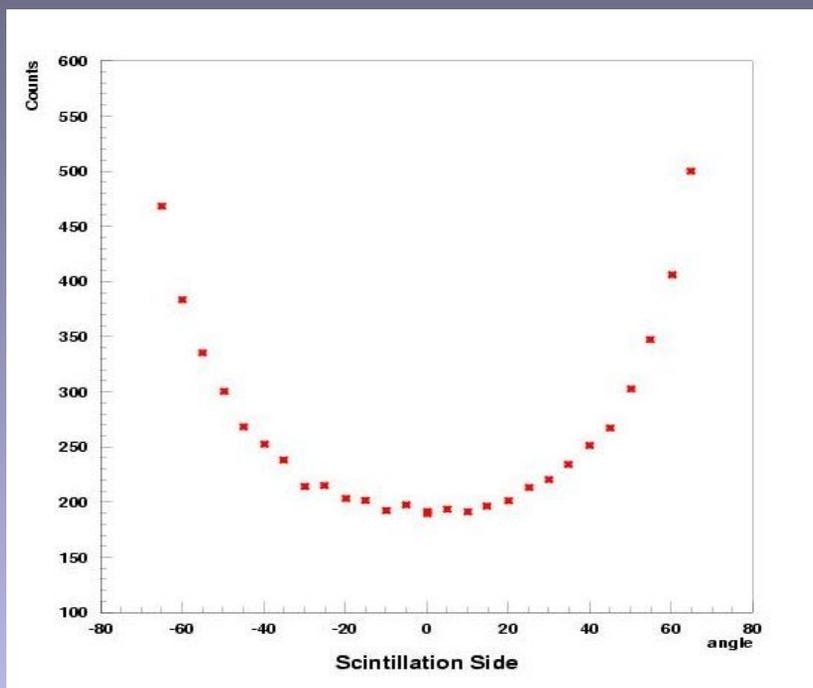
Red: Signal for Cerenkov side
Green: Signal for MIP contamination (e⁻ -BGO)
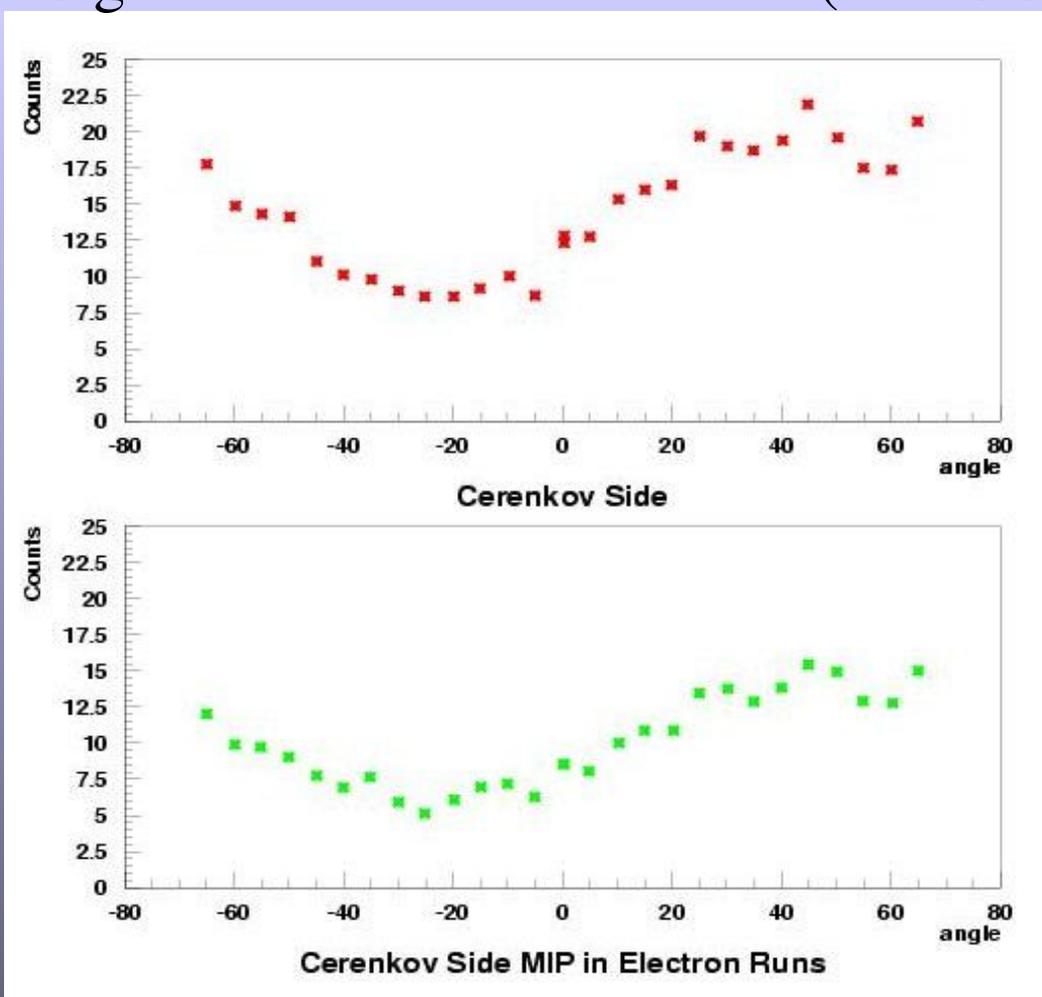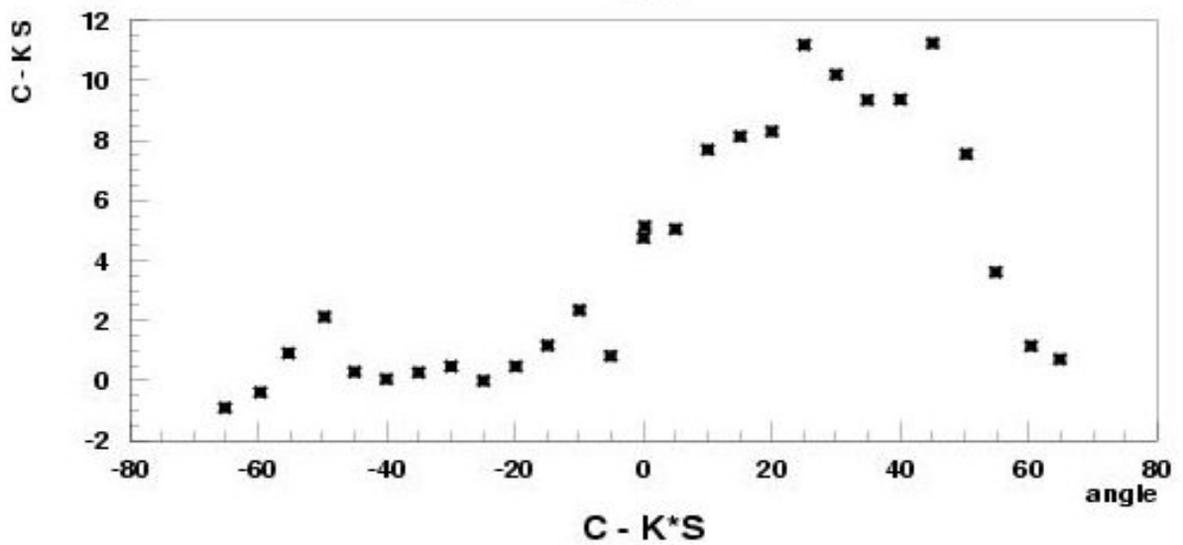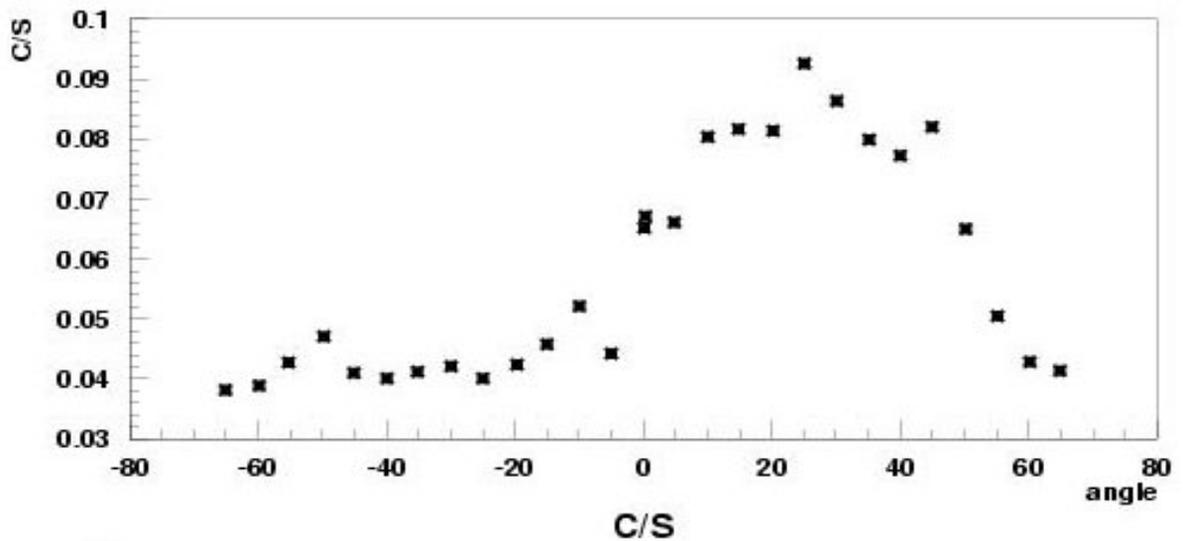
Cerenkov contribution shape in agree with simulation & Cecilia analysis.