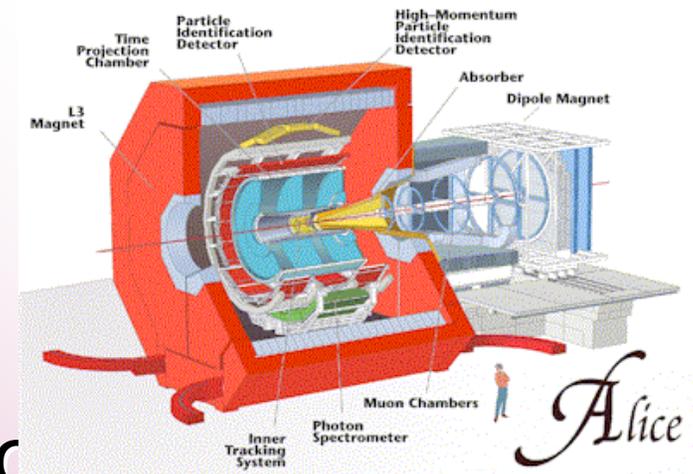


Identificación de partículas usando el método de Bayes en ALICE



Una posibilidad para co

Alice

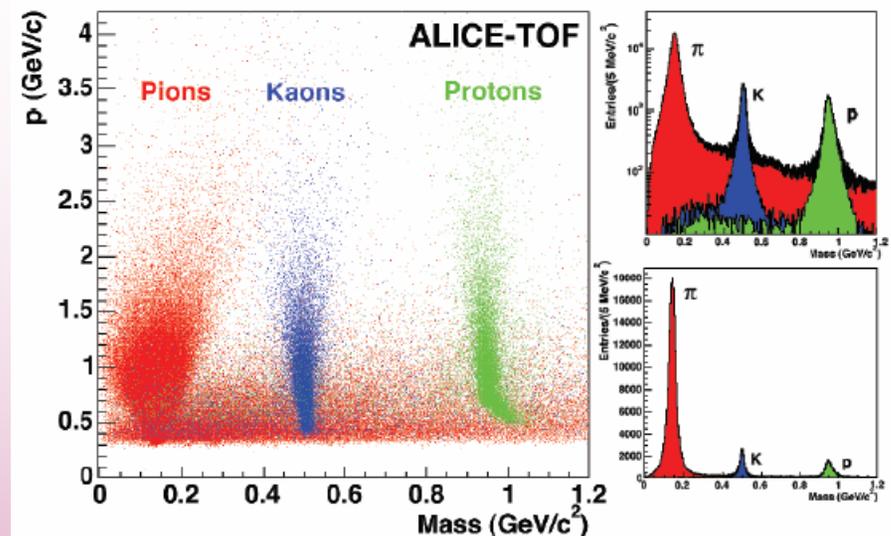
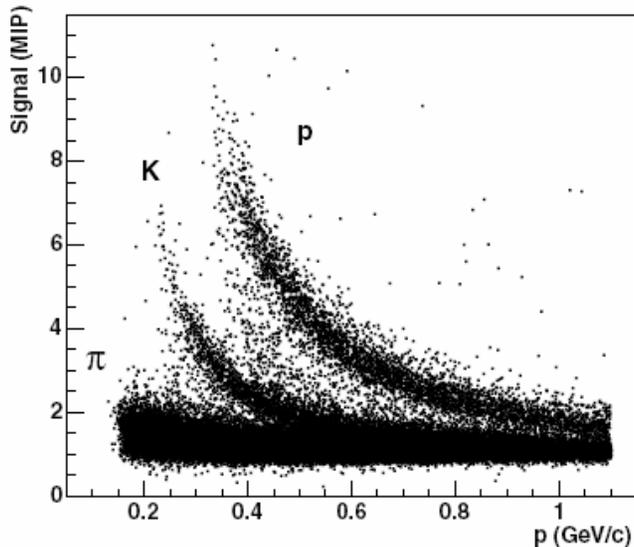
Identificación de partículas en ALICE

El metodo bayesiano es usado por cada detector en ALICE

$$w(i|s) = \frac{r(s|i)C_i}{\sum_{k=e,\mu,\pi,\dots} r(s|k)C_k}$$

(Funcion de respuesta del detector)
Funcion de densidad de probabilidad condicional para obtener una senal *s* en el detector, si la partucula de tipo *i* llega al detector

(concentracion de partuculas)
Probabilidad a priori de encontrar la partucula de tipo *i* en el detector



Identificación de partículas en ALICE

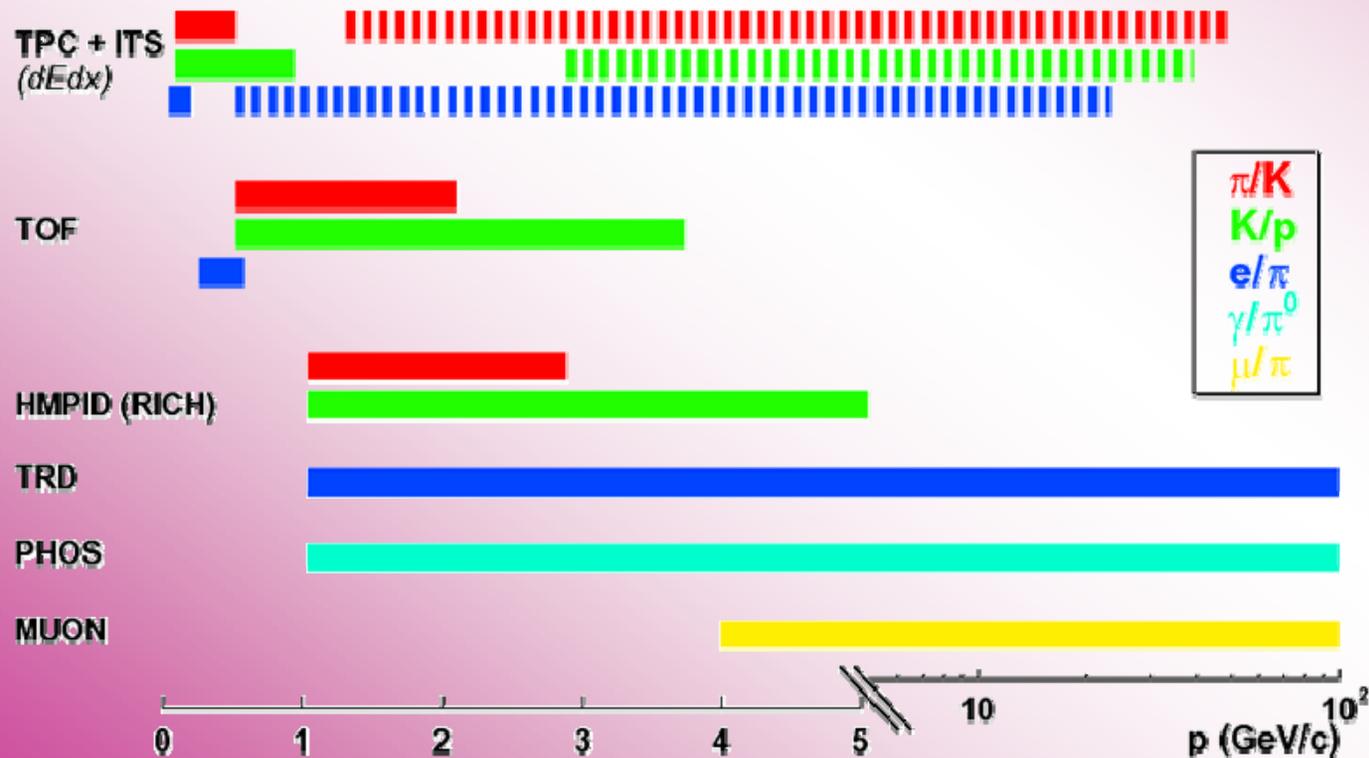
(π, K, p) : $100 \text{ MeV} < p < 5 \text{ GeV}$

dE/dx (ITS) + (TPC) + (TOF) + (RICH)

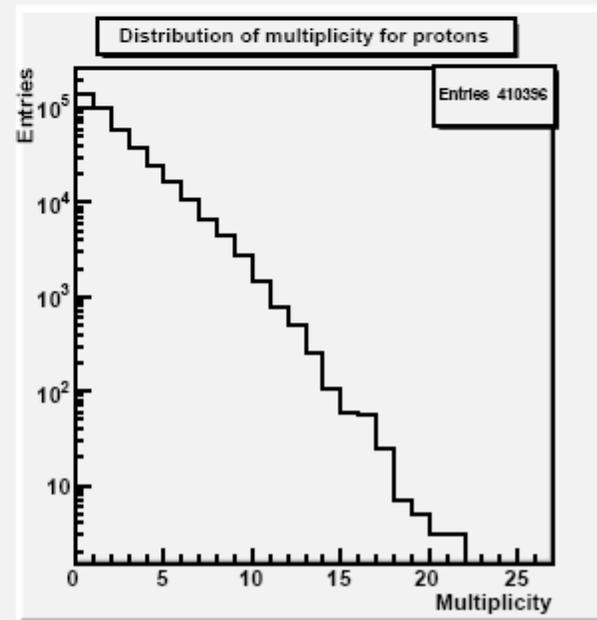
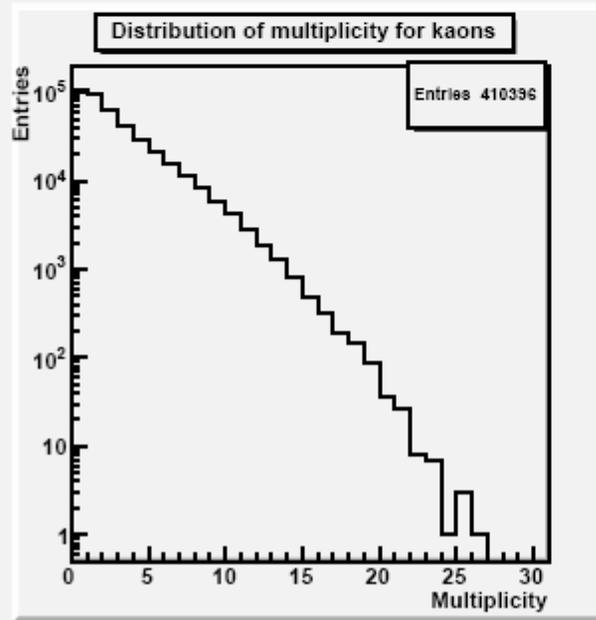
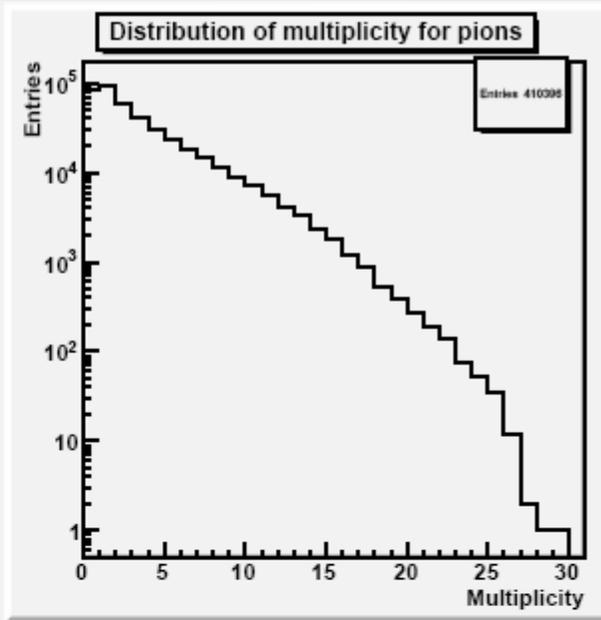
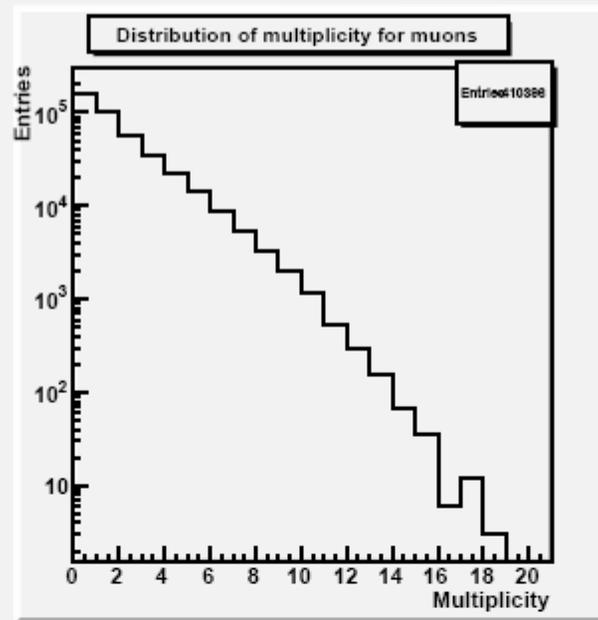
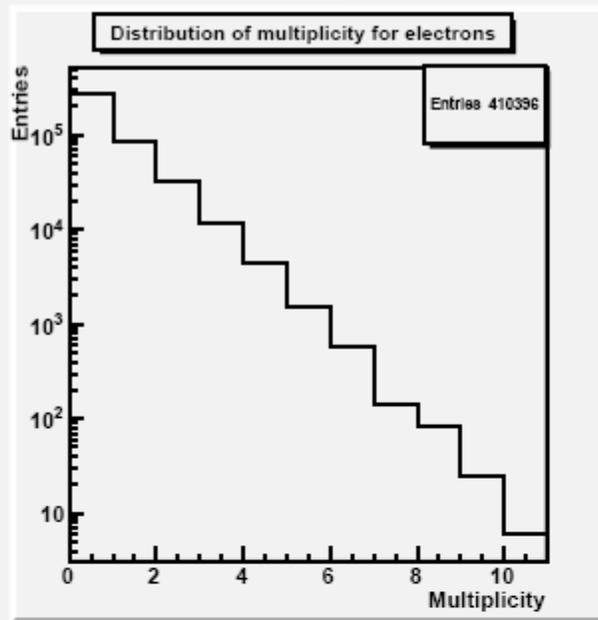
$(K^0, K^+, K^-, \Lambda) \sim 10 \text{ GeV}$

(e, μ) , fotones, π^0 , η

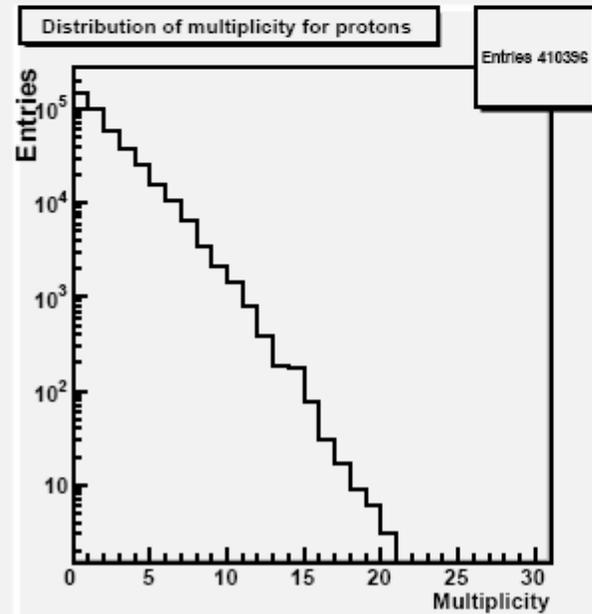
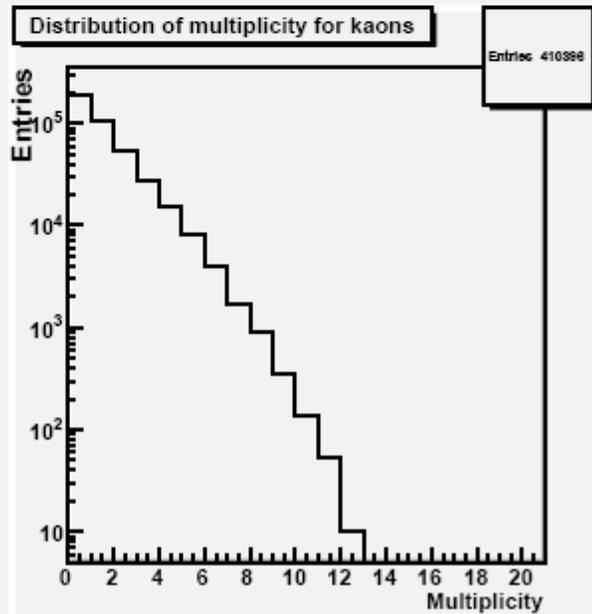
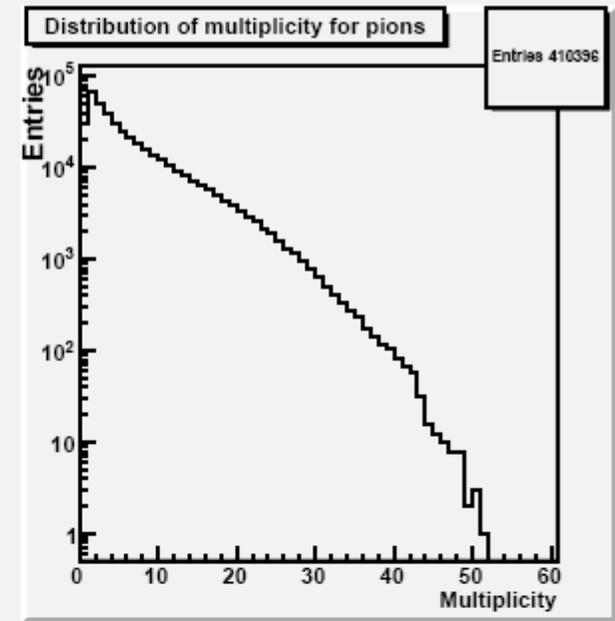
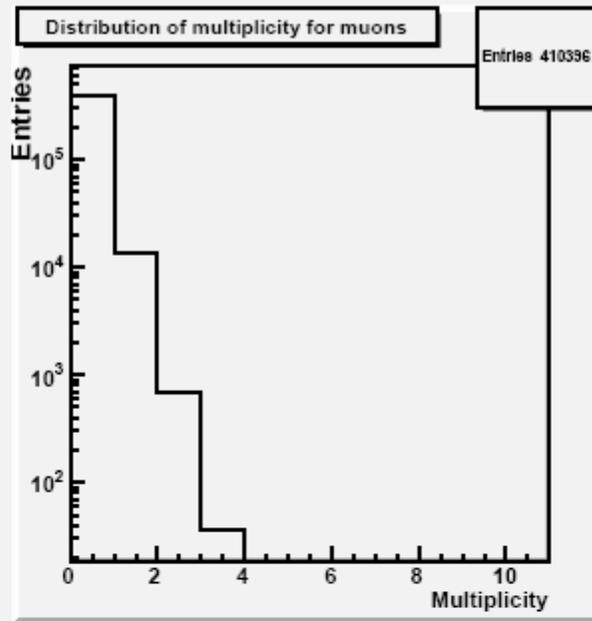
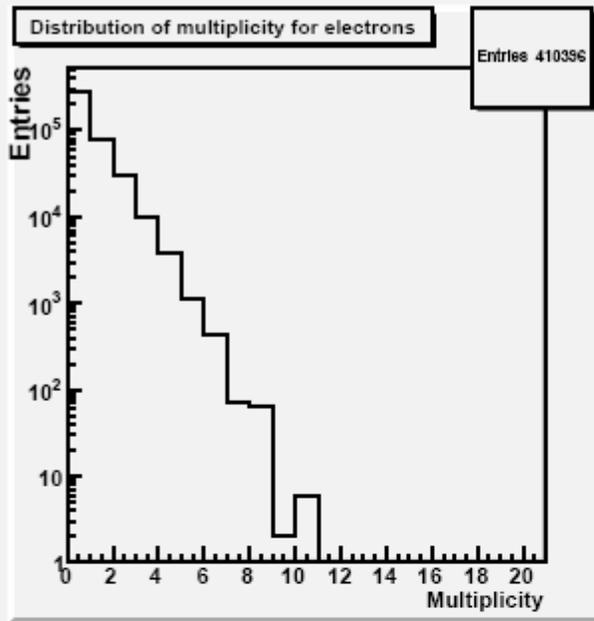
TRD: $p > 1 \text{ GeV}$, μ : $p > 5 \text{ GeV}$, π^0 en PHOS: $1 < p < 80 \text{ GeV}$



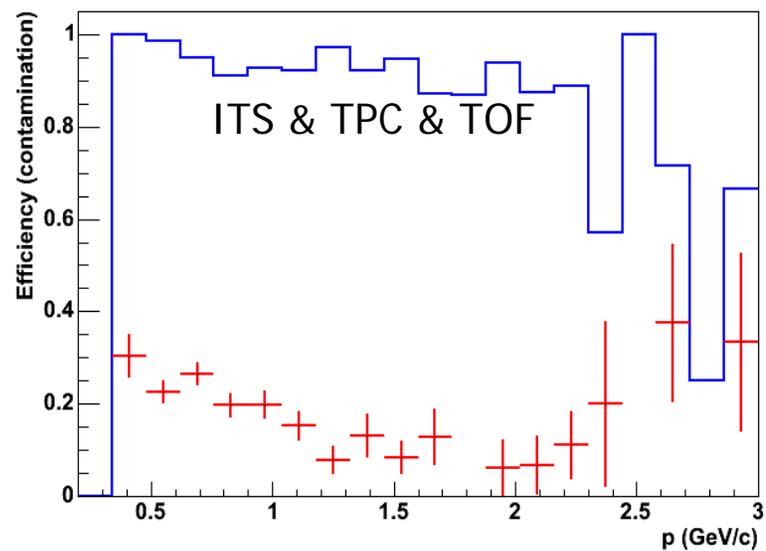
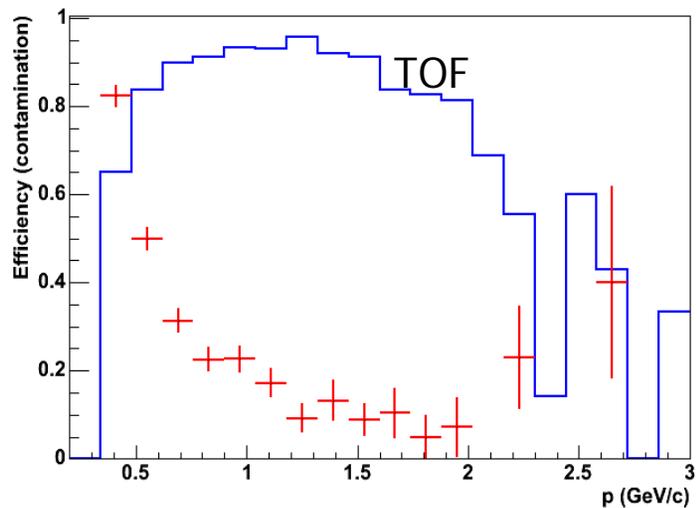
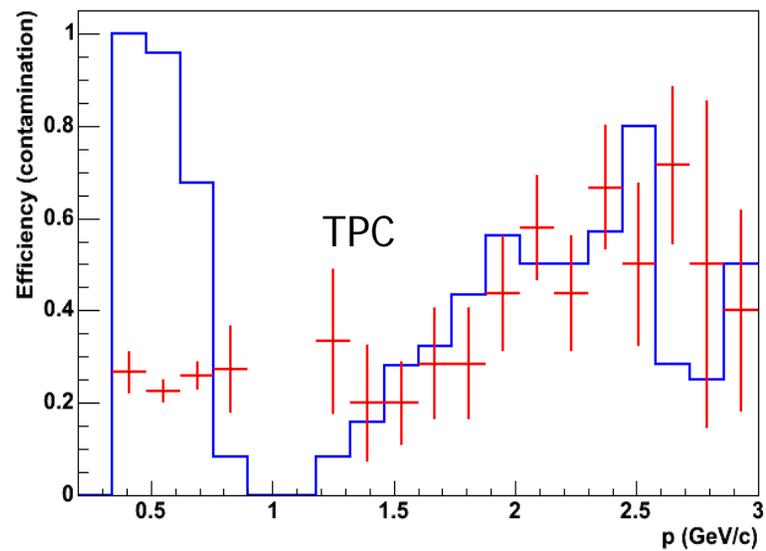
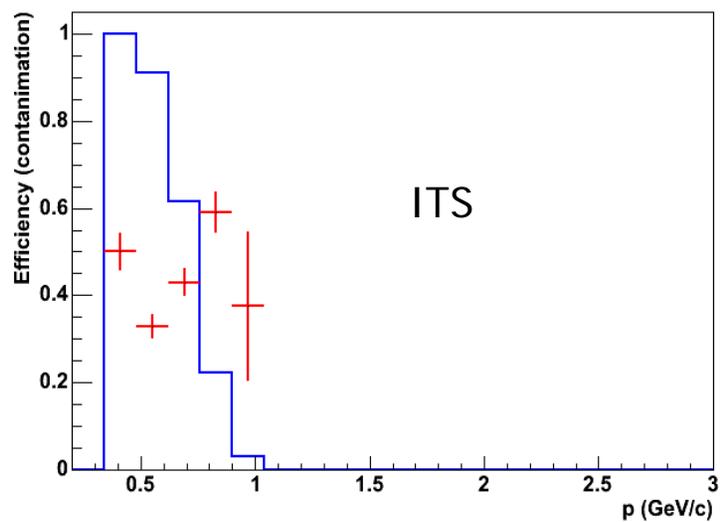
PID realistico



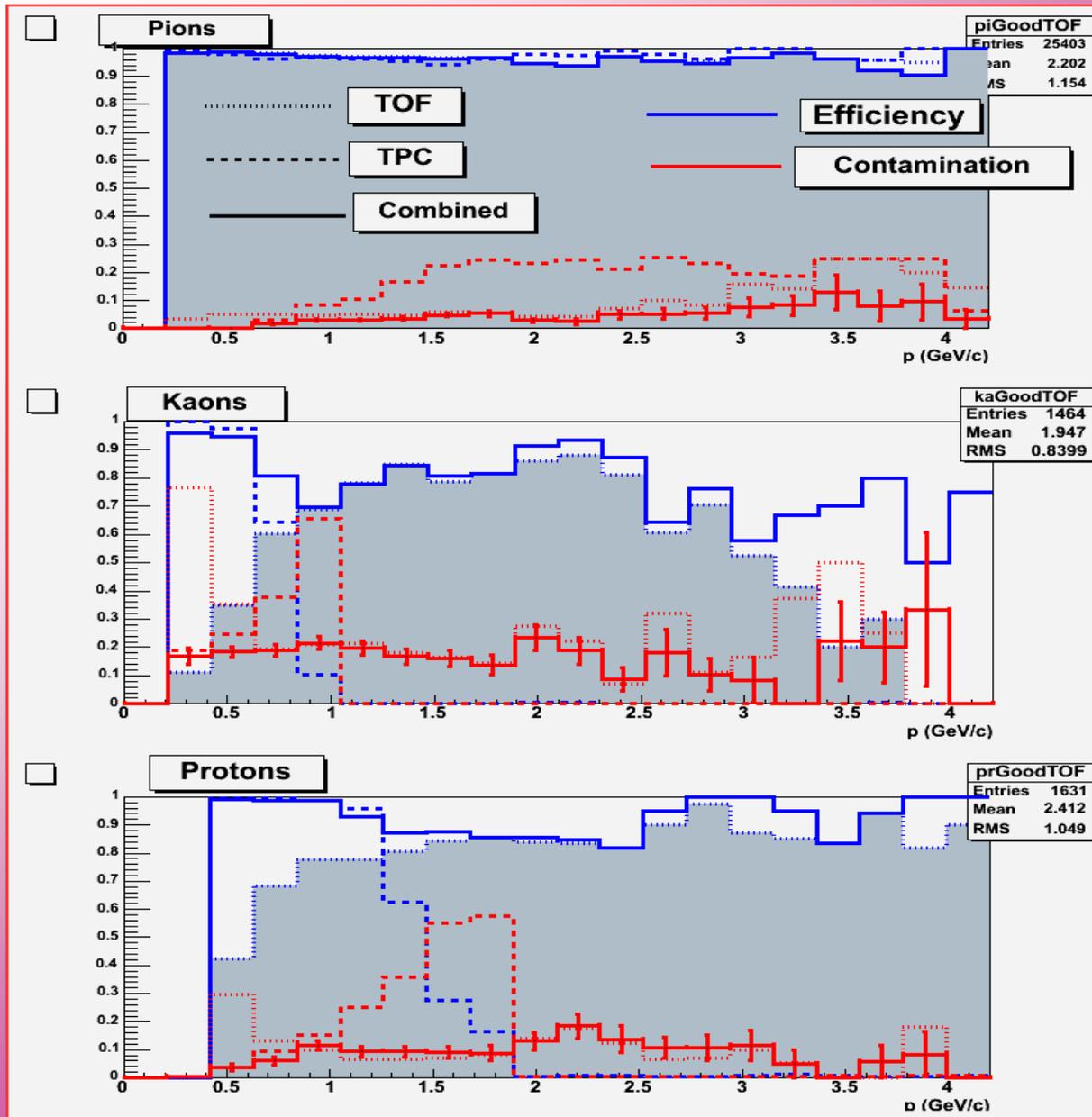
PID a la Bayes



PID en la ITS, TPC y TOF

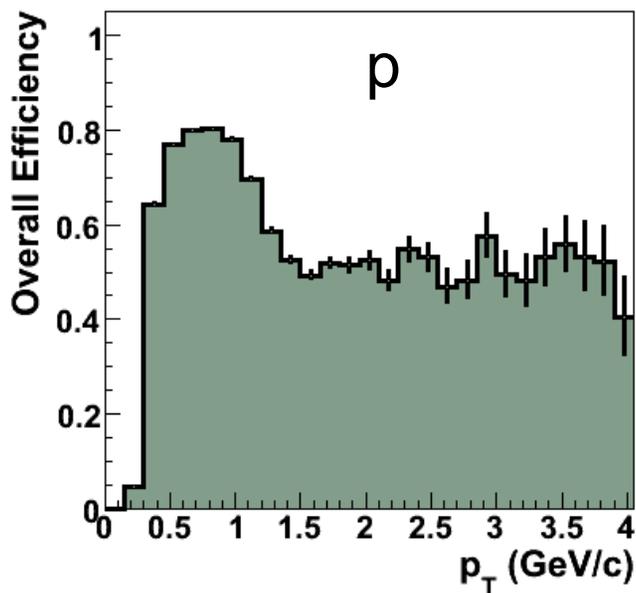
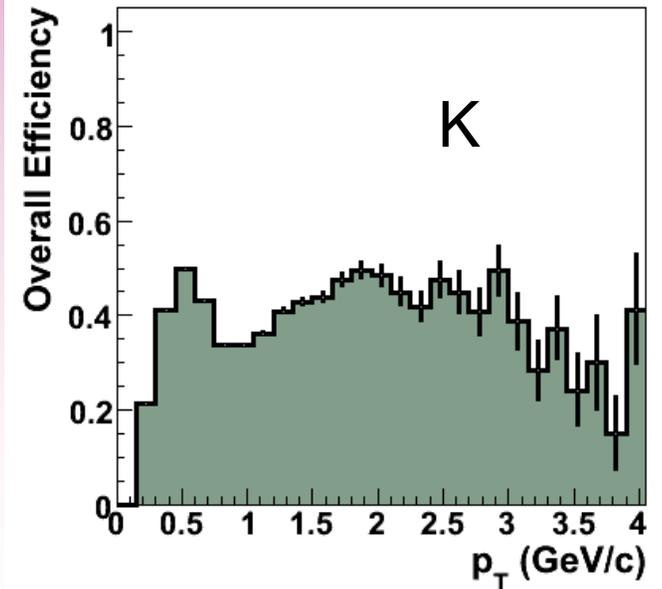
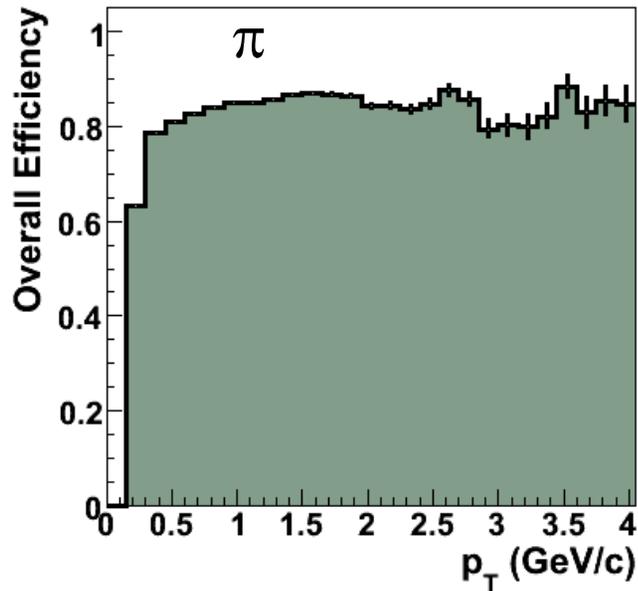


Eficiencia de PID



PID – ITS || TPC || TOF

$0.15 < p_T < 4 \text{ GeV/c}$



Efficiency			contaminati on		
π	K	P	π	K	p
98 %	76 %	86 %	2%	22 %	5%