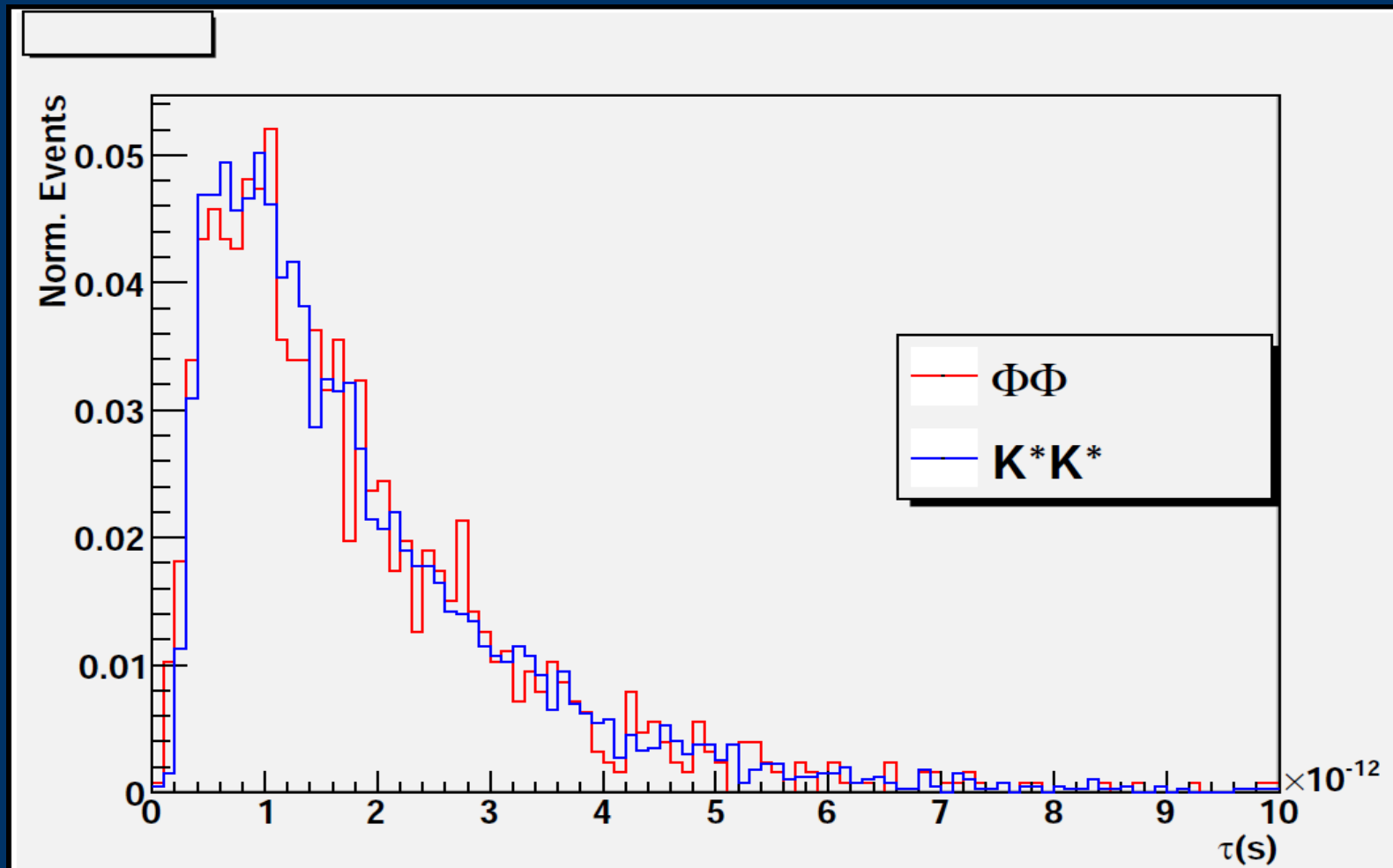


Bs Phi Phi /Kstar Kstar Comparison.  
Celestino Rodríguez Cobo

# *Motivation*

- There is a lifetime acceptance in both channels
- Both channels are interesting enough
- Require selection optimization.

# Lifetime distribution

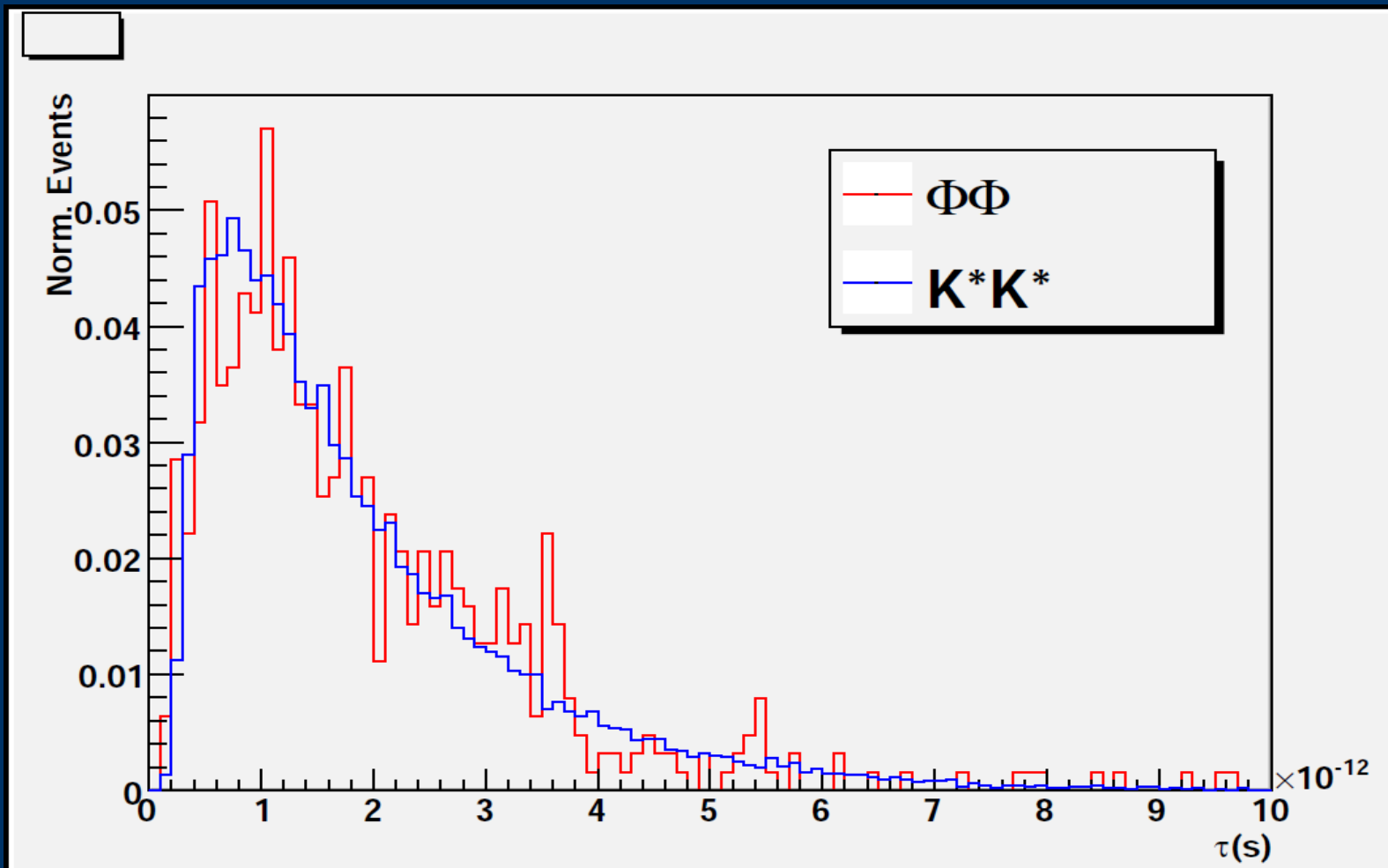


- MC Truth lifetime comparison, preselection level.

# *Selection comparison*

- Some cuts can alter the lifetime acceptance
- How?
- Trouble with MCTruth- “simulated measures” linking (600 events out of 1200...)
- May need more data. Definitely a better linking script.

# Lifetime distribution

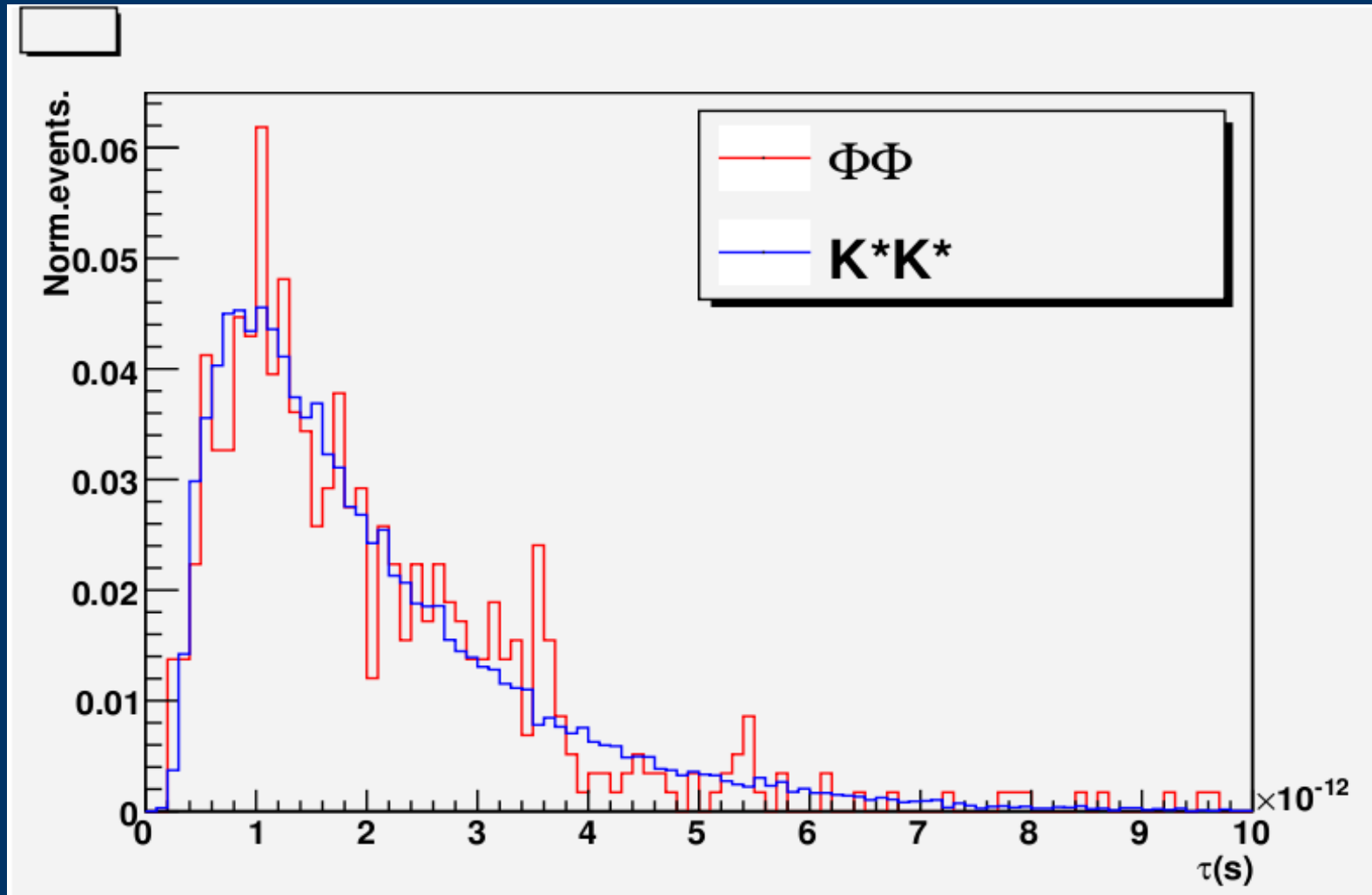


- Signal lifetime comparison, preselection level.

## *Possible Cut Biases.*

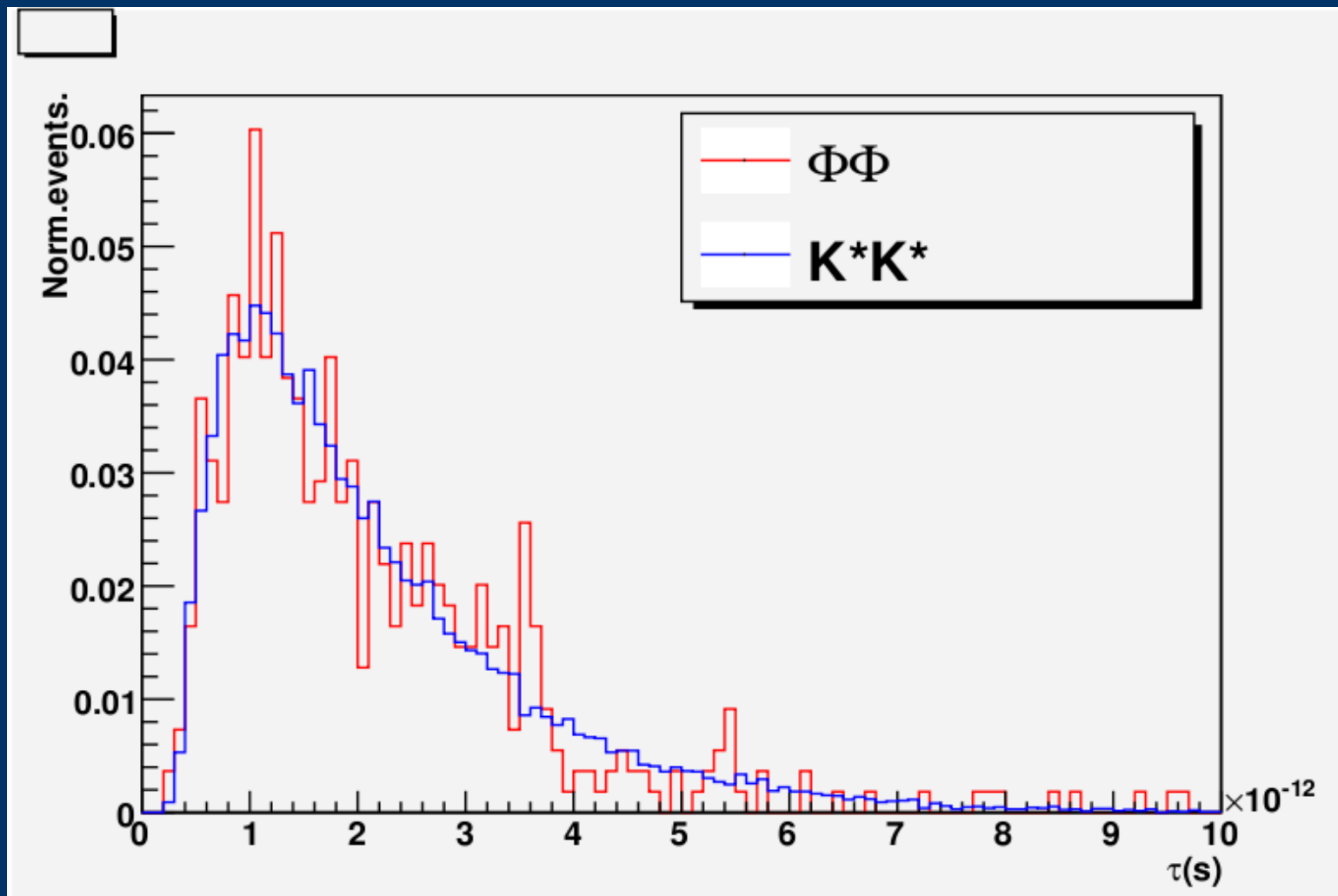
- Flight Distance with Sign ( $>0$  if forward, mm)
- Minimum Impact Parameter Significance (in  $\sigma^2$ )
- B Vertex distance Significance (in mm- $\chi^2$ )

# Lifetime distribution



- $\text{minIPS} > 9$

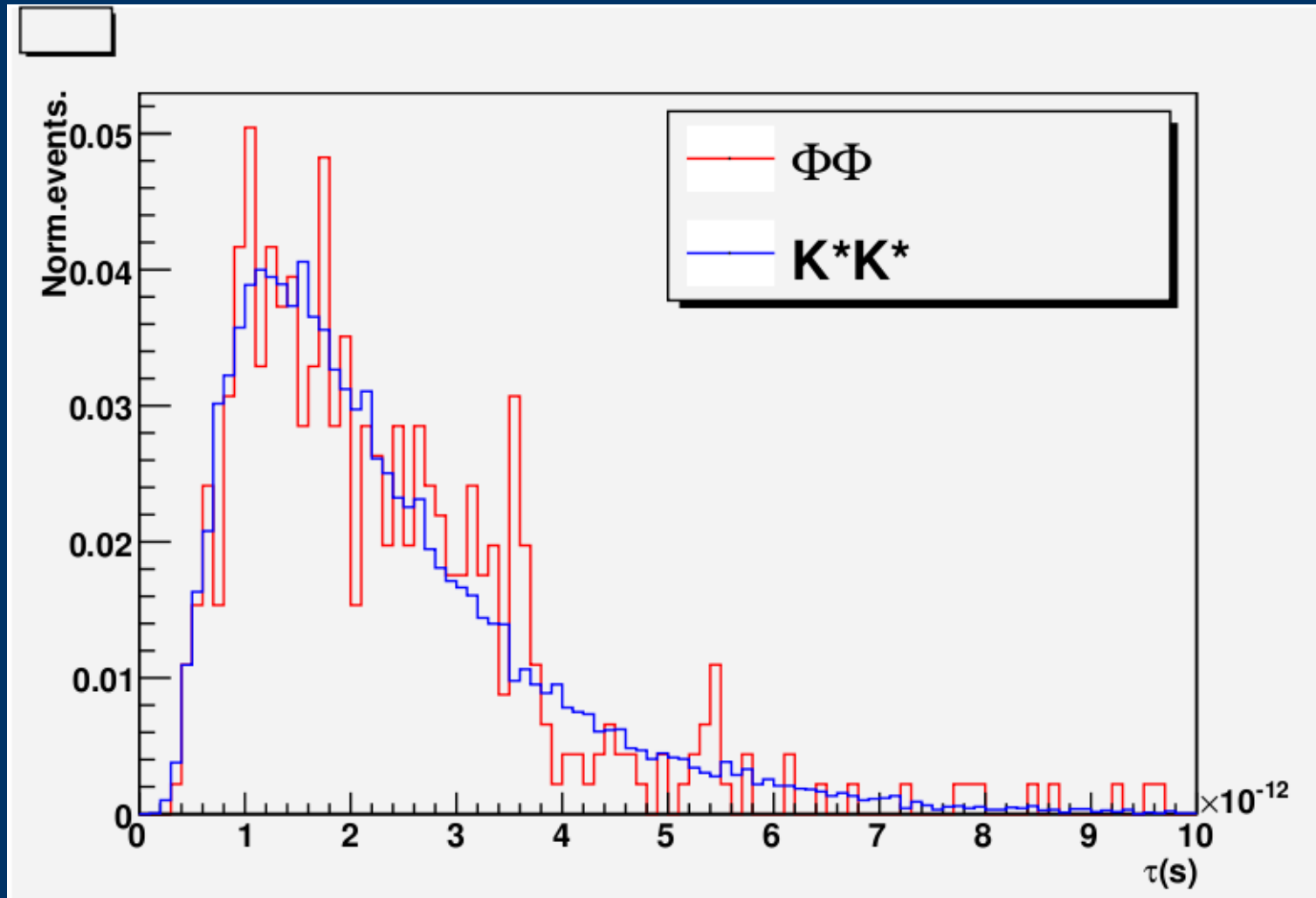
# Lifetime distribution



- $\text{minIPS} > 16$

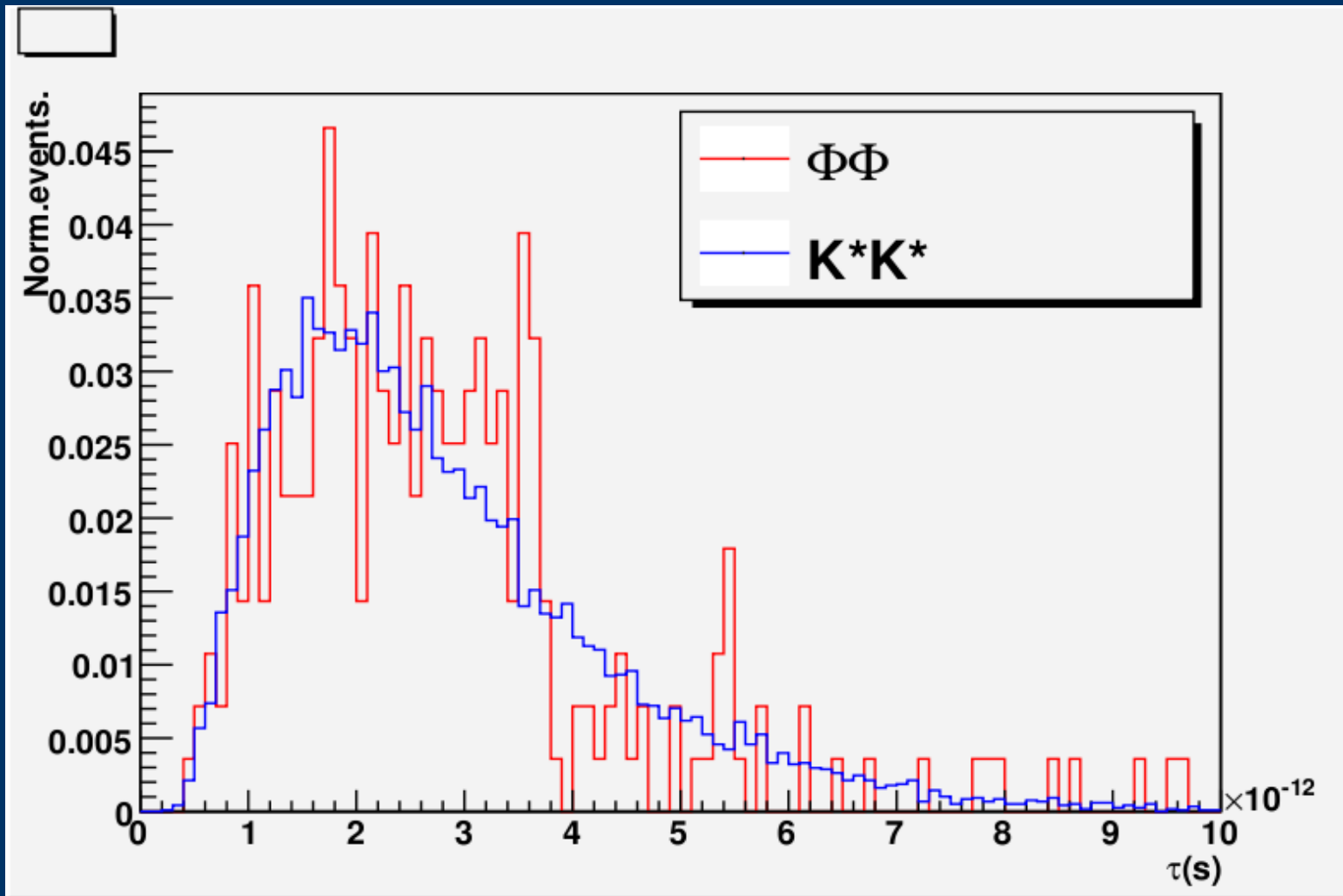


# Lifetime distribution



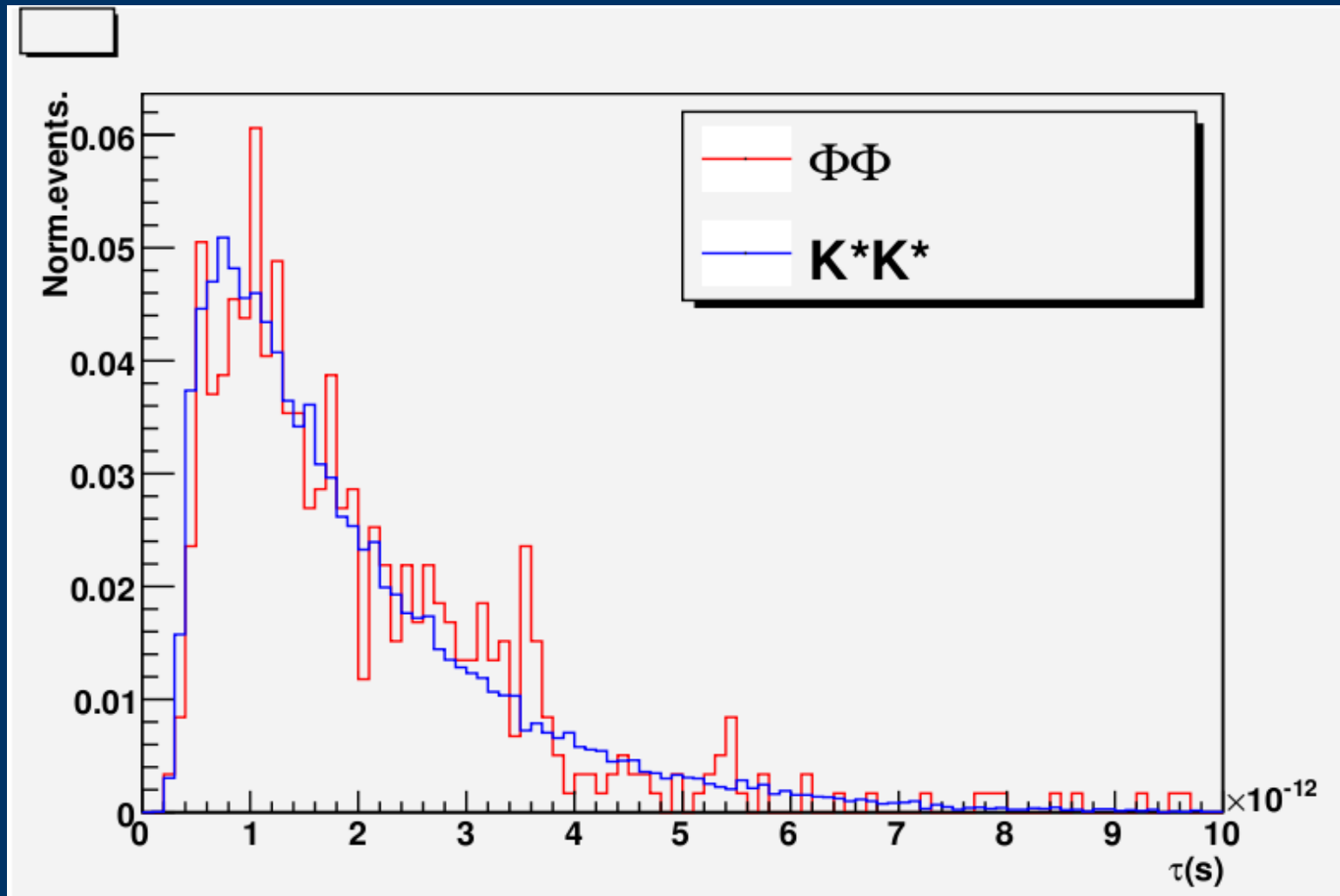
- Flight Distance  $> 5.0$  mm

# Lifetime distribution



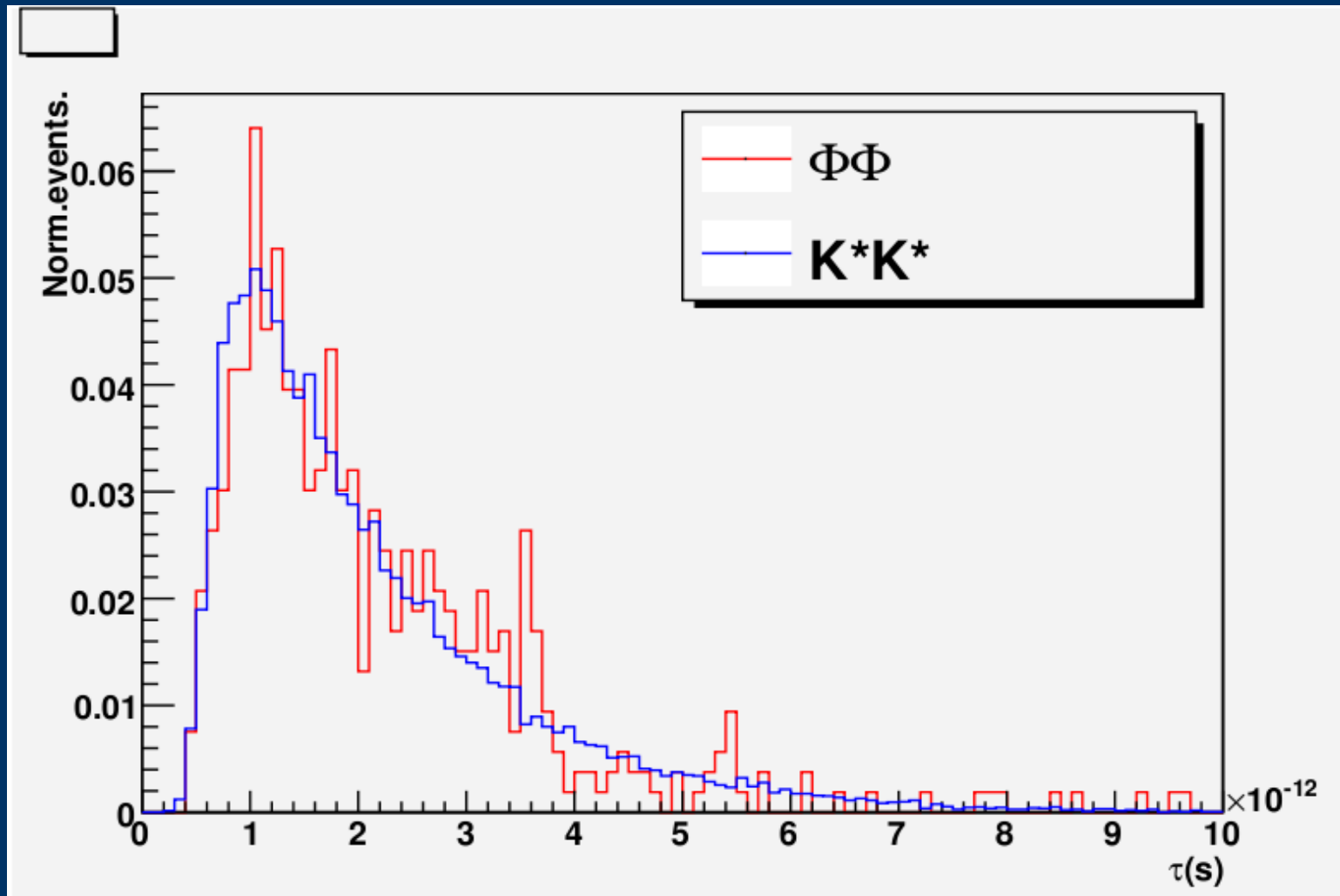
- Flight Distance  $> 10$  mm

# Lifetime distribution



- B distance significance  $>12$

# Lifetime distribution



- B distance significance  $>20$