

# Long-lived Stau

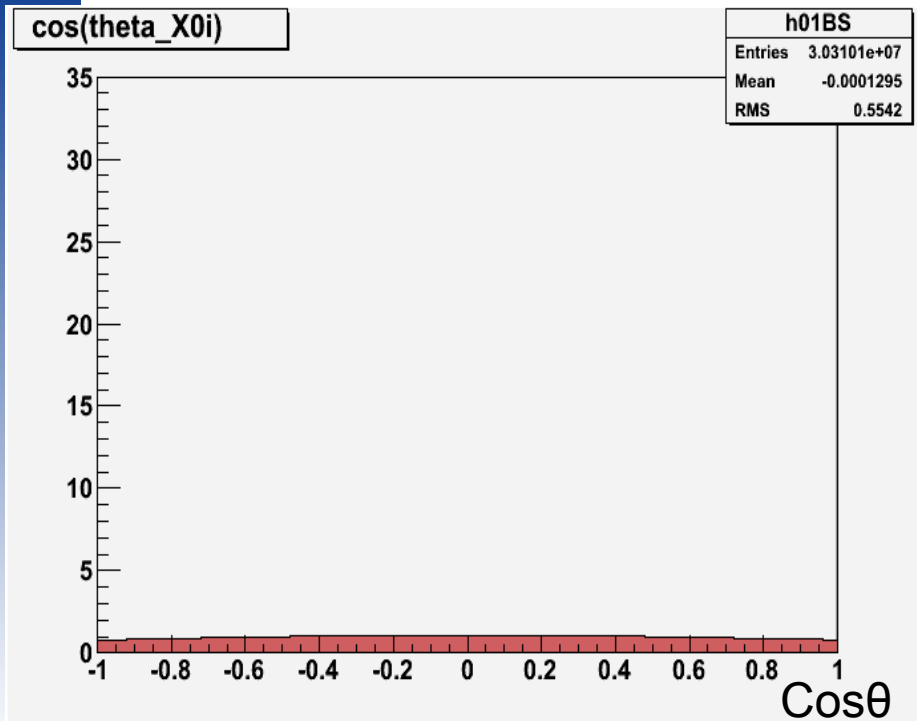
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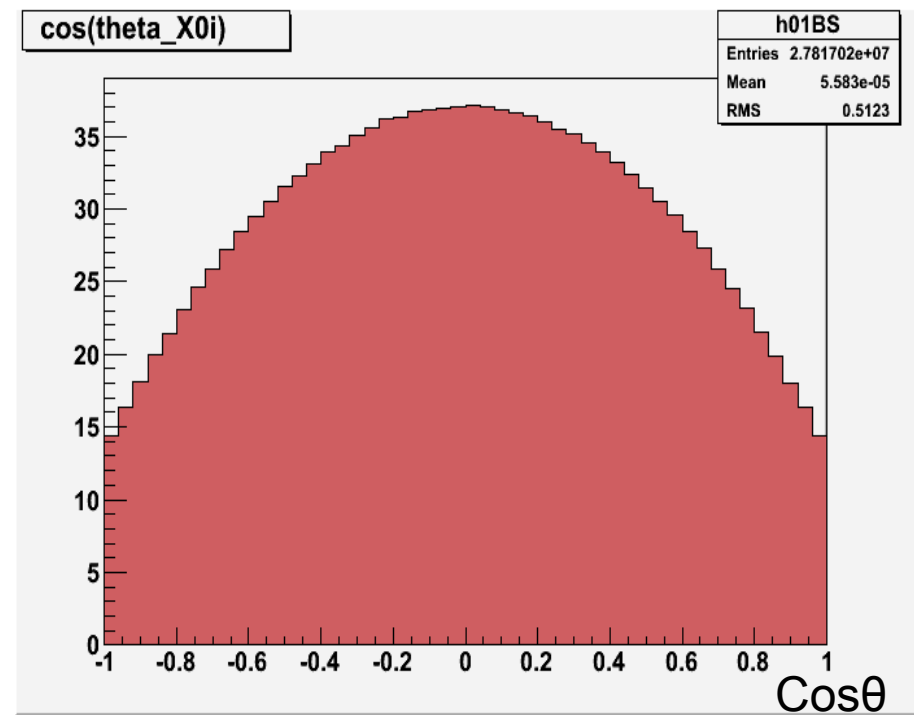
# Neutralino Angular Distribution

These are neutralino's angular distribution with each polarization



Pol(e-,e+)=Pol(-1,+1)

it is almost flat.



Pol(e-,e+)=Pol(+1,-1)

Many neutralinos reach the barrel.

When polarization is (-1,+1), number of events are low and its distribution is almost flat.  
When polarization is (+1,-1), many neutralinos reach the barrel.

# Summary & Plan

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- Properties of a stau are determined by stau pair mode.
- Stau mass can be measured by  $dE/dx$  and TOF.
- Life time of stau is uncertain, but if we can stop a stau at HCAL, we may observe stau's decay.
- Polarization is important, because it determines a stau mixing angle. And right handed electrons or left handed positrons beam generate many stau events.
- Event selection for decay mode that neutralino decays into a stau and tau give a good efficiency. Especially,  $dE/dx$  Cut is effective.
- Selection by TOF should be considered.
- Angular distribution of neutralino should be measured.