

Influence of Threshold on π^0 Reconstruction

Zhiyu Zhao, Baohua Qi, Yong Liu

2023.01.04



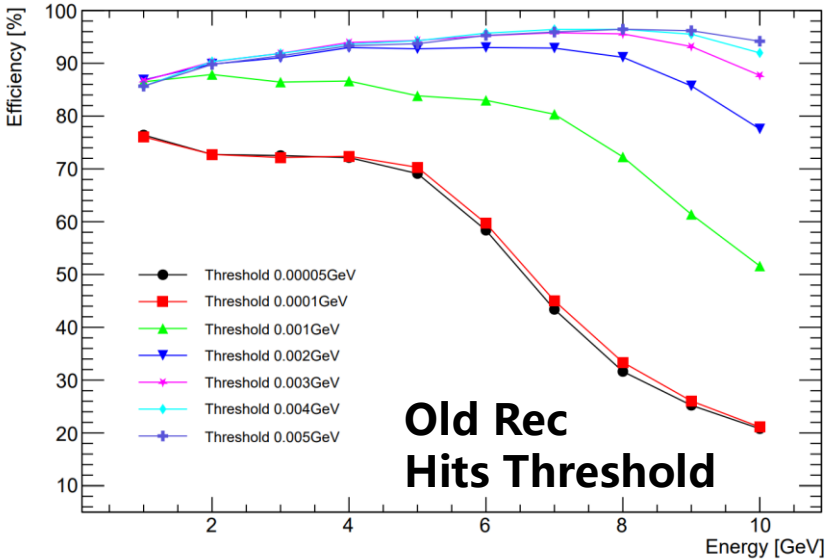
李政道研究所

TSUNG-DAO LEE INSTITUTE

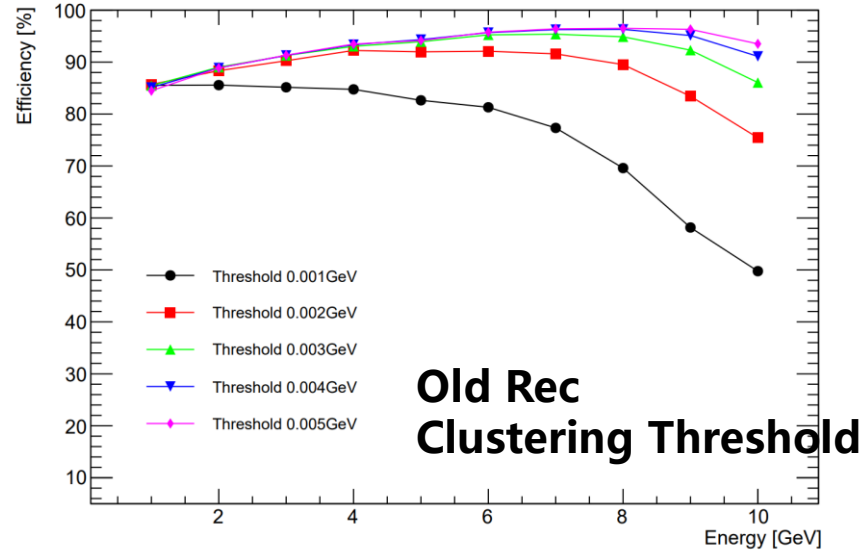
Pion Reconstruction For Different Threshold



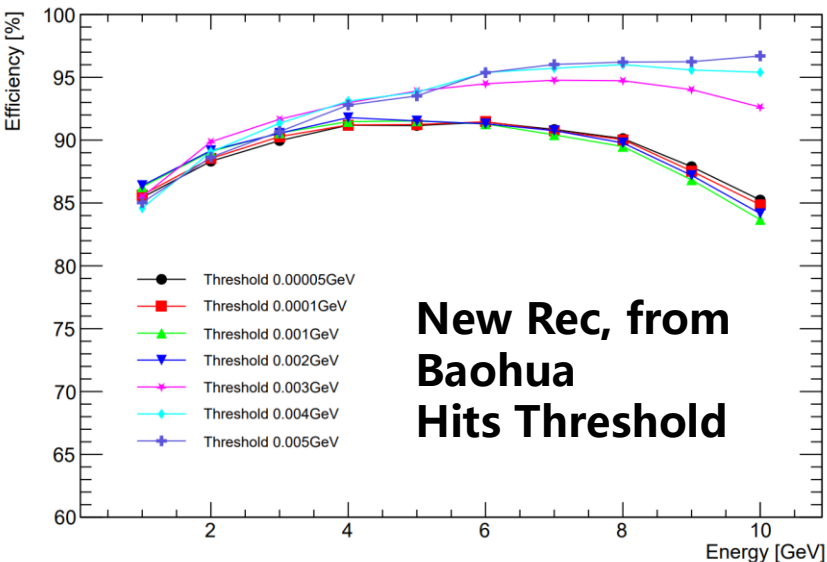
Mass Reconstructed Efficiency



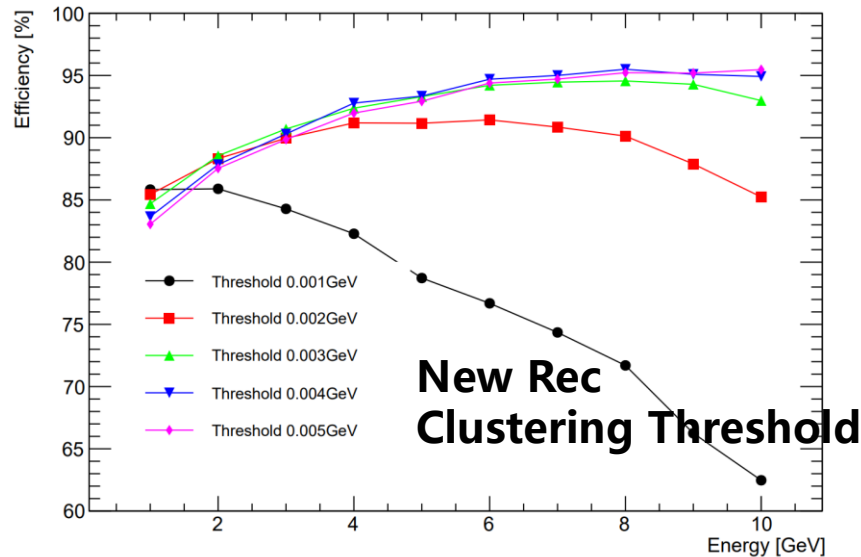
Mass Reconstructed Efficiency



Mass Reconstructed Efficiency



Mass Reconstructed Efficiency

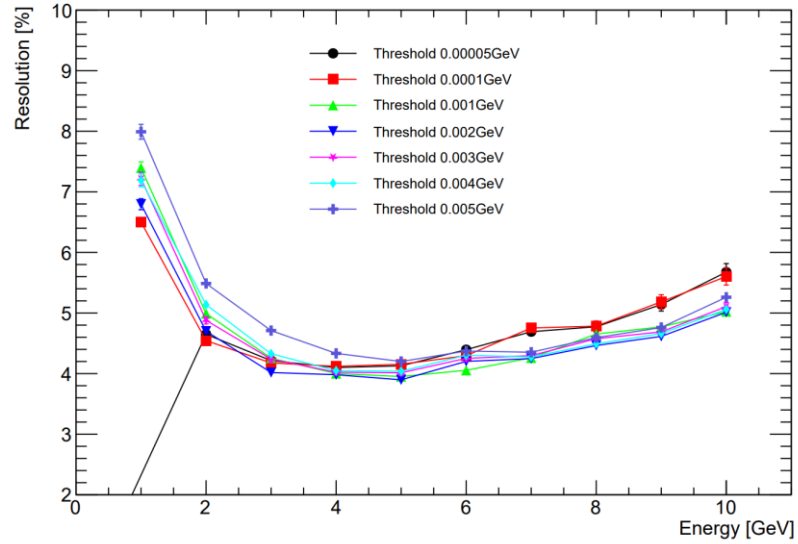


- CEPCSoft v0.1.1
- 1~10GeV π^0 , 90° of incidence
- Successfully reconstruction
 - At least 2 particles were reconstructed
 - The reconstructed mass is within 3 σ around the mean value
- 2 σ fitting
- Old Rec
 - Calibration constant: 1.11
 - Hits threshold
- New Rec
 - Calibration constant: 1
 - Hits threshold
 - Energy Threshold in Clustering
 - Time Threshold

Mass Resolution

Hits Threshold

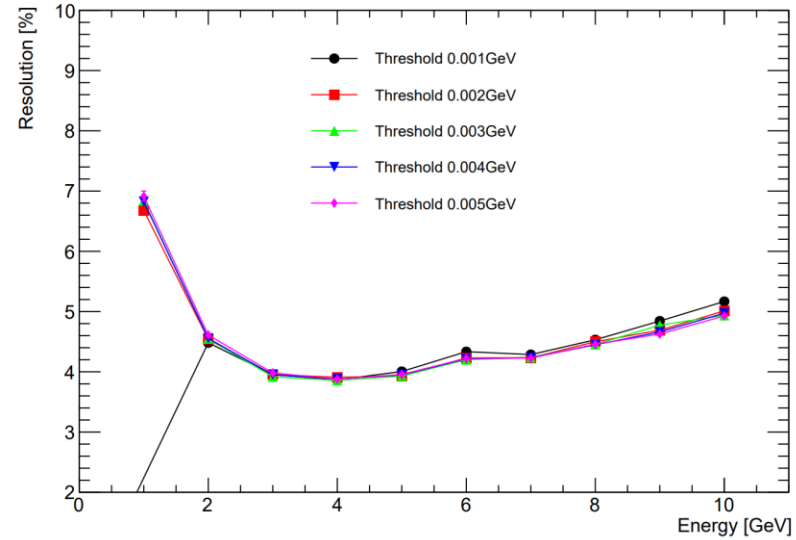
Mass Resolution



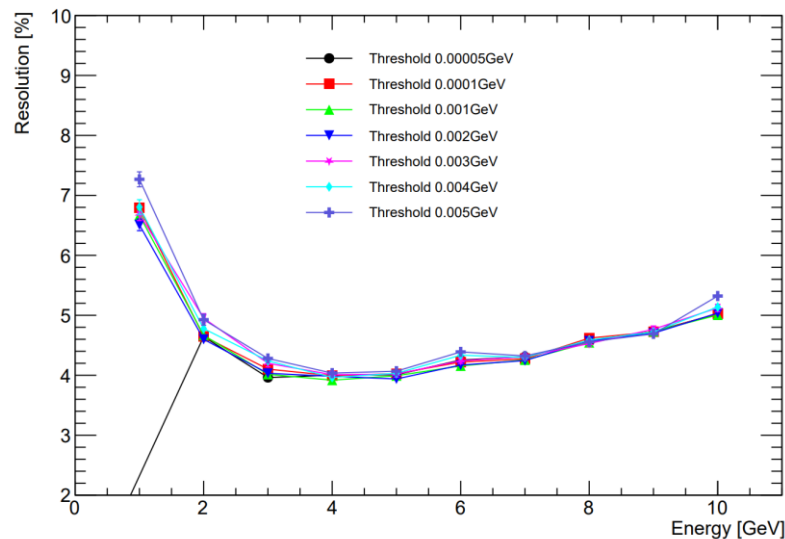
Old Rec

Clustering Threshold

Mass Resolution

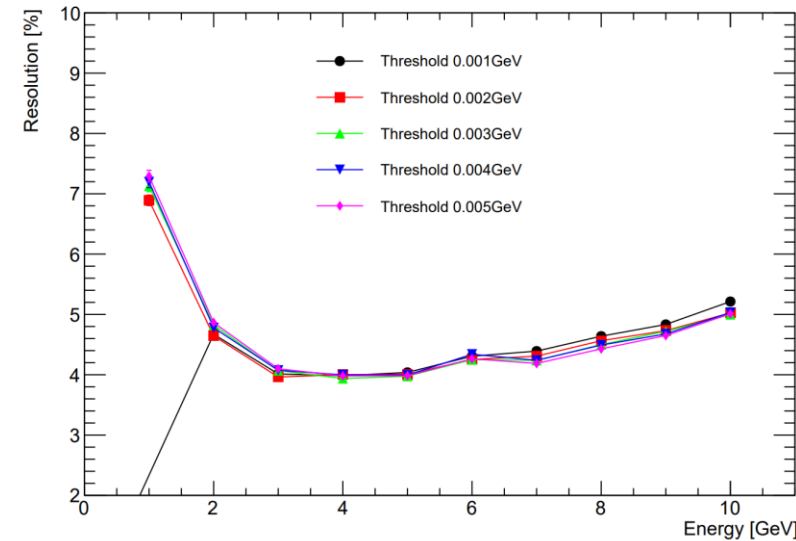


Mass Resolution



New Rec

Mass Resolution



Energy Resolution

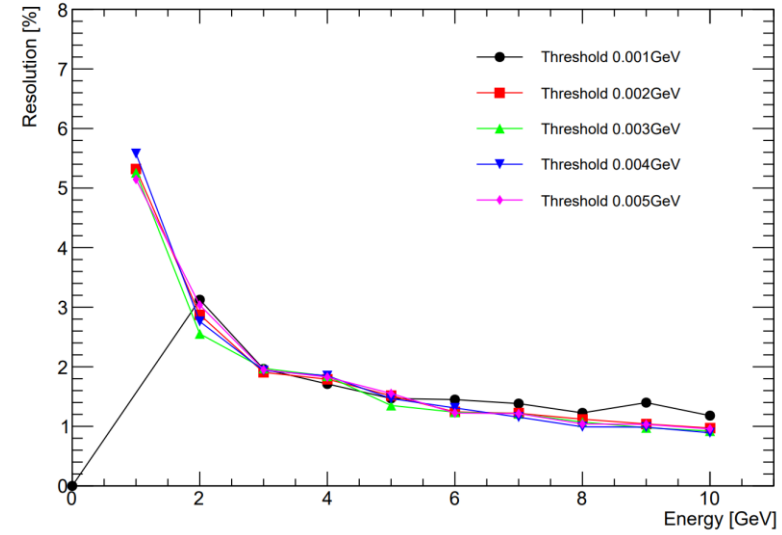
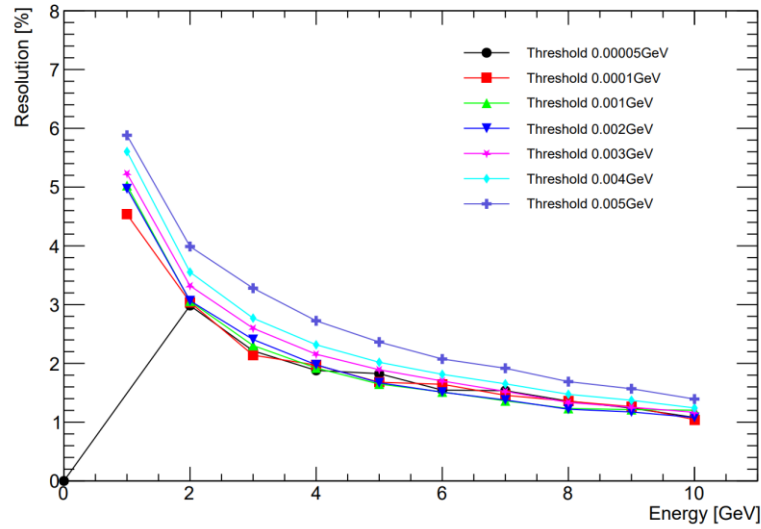
Hits Threshold

Clustering Threshold

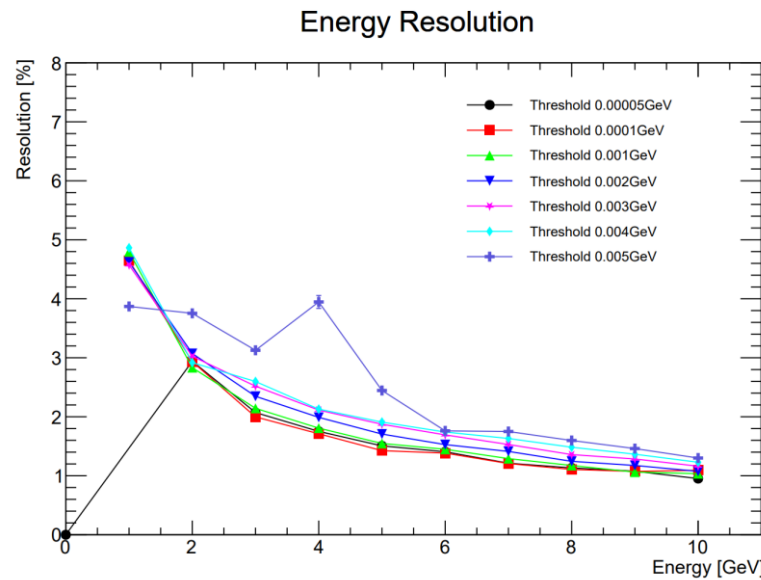
Energy Resolution

Energy Resolution

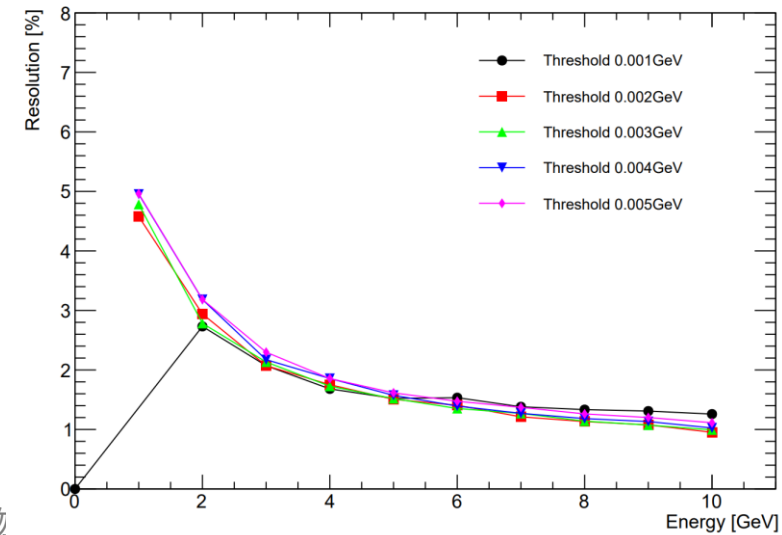
Old Rec



New Rec



Energy Resolution

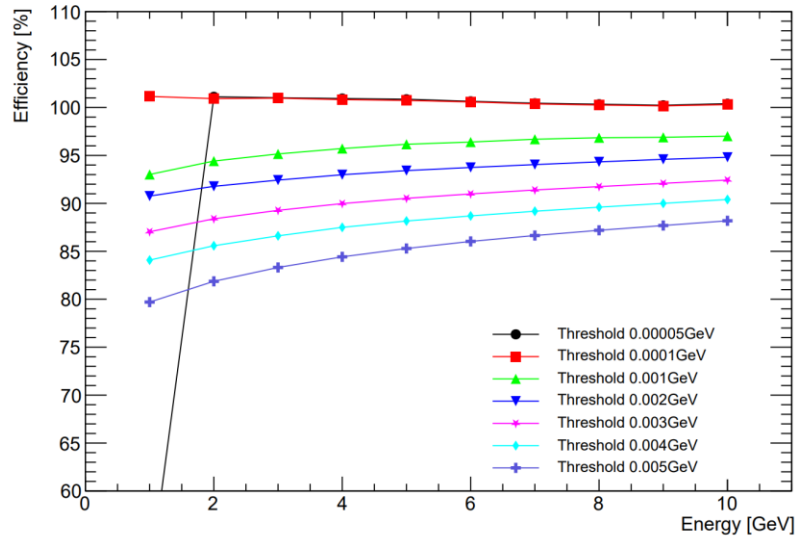


Energy Efficiency



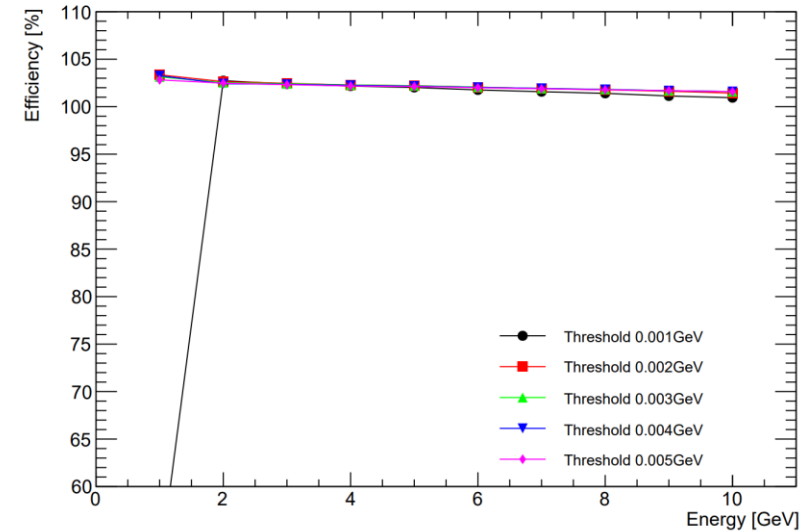
Hits Threshold

Energy Reconstructed Efficiency



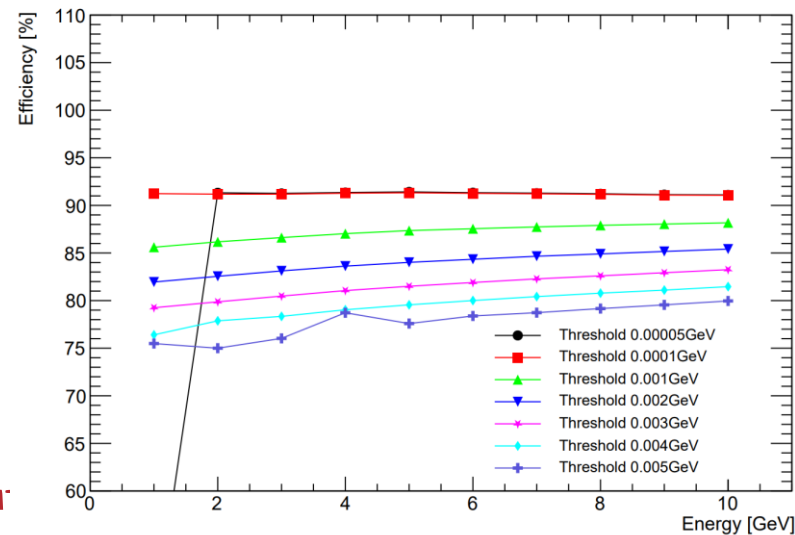
Clustering Threshold

Energy Reconstructed Efficiency



Old Rec

Energy Reconstructed Efficiency



New Rec

Energy Reconstructed Efficiency

