



# 中国科学技术大学

## Modern Physics Department of USTC

➤ 1958, Prof. Chung-Yao Chao, Nuclear Physics and Engineer

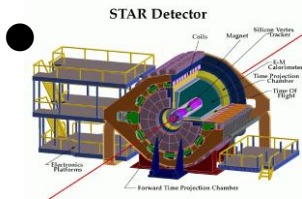


1930, observation of  $0.511\text{MeV}$   $\gamma$ -ray from  $e^+e^-$  annihilation

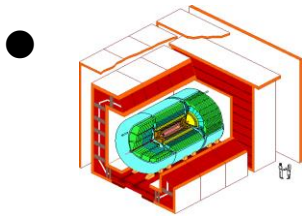


## History of USTC particle physics

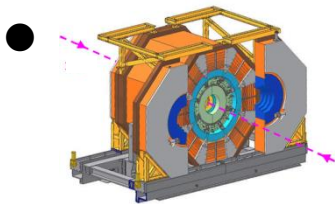
- Theory: hep-phenomenology, hadron, string & cosmology
- Experiments: 1980-, LEP/L3 @CERN



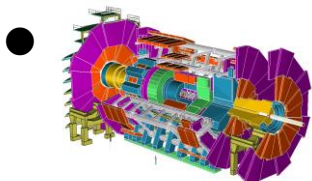
● 2000-, RHIC/STAR @BNL : heavy ion collision for QGP  
Design and production of RPC TOF



● 2003-, Tevatron/DØ @Fermilab:  
Tracking trigger algorithm and calorimeter calibration  
SUSY + Electroweak + Higgs



● 2005-, BEPC/BES @IHEP, 2-5GeV  $e^+e^-$  :  
End-cap TOF, Muon & electronics  
light hadron and charm physics



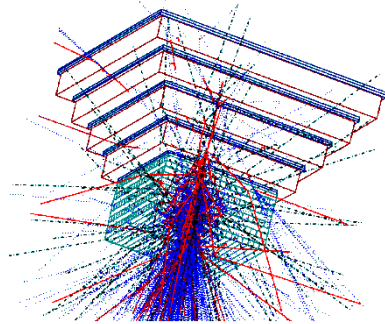
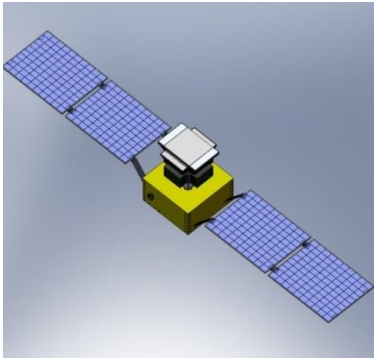
● 2008-, LHC/ATLAS @CERN:  
Electroweak diboson + Higgs + New physics  
Phase 1 upgrade of Muon trigger system



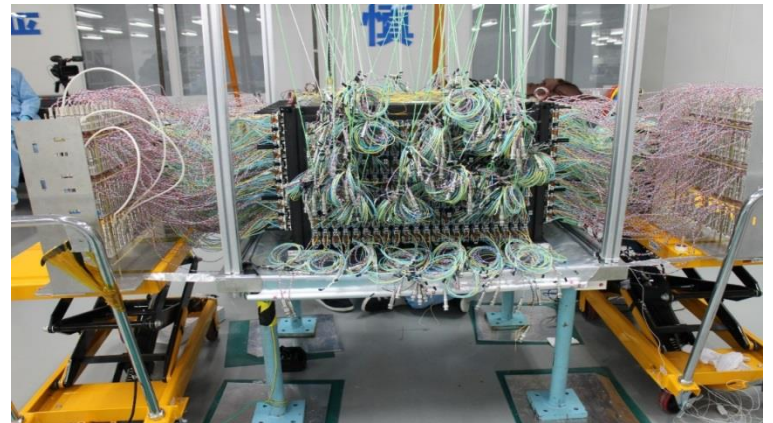
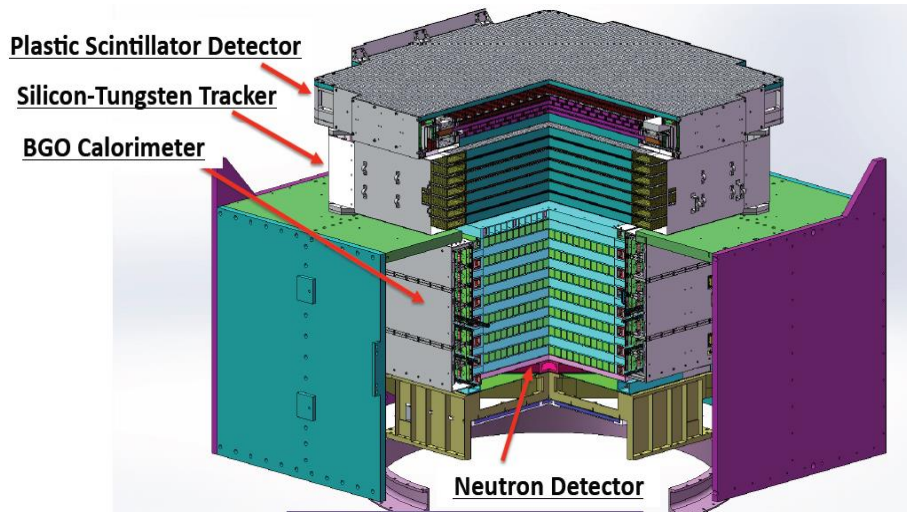
## State Key Lab. of Particle Detection & Electronics

➤ Satellite-based Dark Matter Survey:

Detection for high energy  $e/\gamma$  at  $\sim 500$  km orbit around the earth



- Dynamic range: 10GeV-10TeV
- Resolution for energy: 1.5% @ 800GeV
- Spatial resolution:  $0.5^\circ$  @ 500GeV
- Background noise:  $<1\%$  @ 800GeV
- Distinguish between  $e/\gamma$  :  $>1\%$



**Design and production of BGO calorimeter and electronics**



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## Spring of the campus

