



## **PERSONAL INFORMATION**

Yaozu Jiang

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## **EDUCATION AND TRAINING**

FISICA

Università degli Studi di PERUGIA - Department of Physics and Geology  
2nd level-cycle degree/Master of Science (2 years)

FISICA

Università degli Studi di GENOVA - Faculty of Mathematical, Physical and  
Natural Sciences  
1st level-cycle degree/Bachelor (3 years)

## **INTERESTS AND HOBBIES**

Traveling, Reading, Video Games

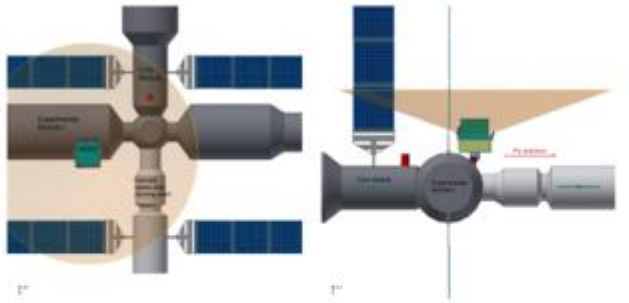
## **MOTTO**

Whatever you decide to do, make yourself happy.

# The High Energy Cosmic Radiation Detection

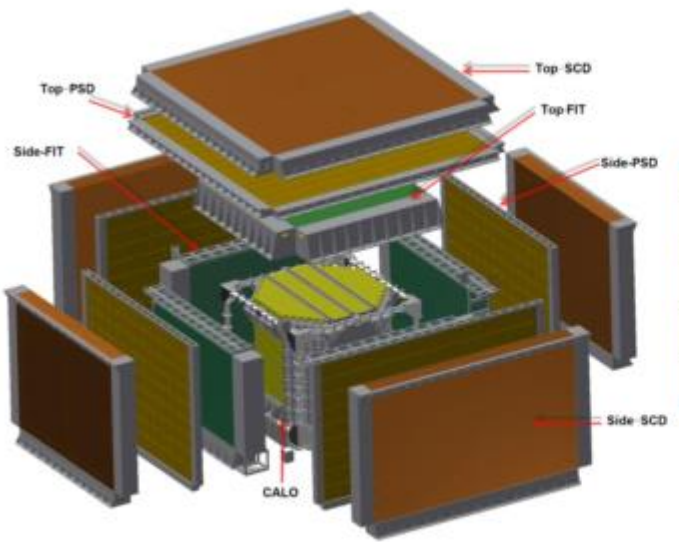
The High Energy cosmic-Radiation Detection (HERD) facility is one of several space astronomy payloads of the cosmic light house program onboard China's Space Station, which is planned for operation starting around 2026 for about 10 years. The main scientific objectives of HERD are indirect dark matter searches with an unprecedented acceptance ( $> 1 \text{ m}^2\text{sr}$ ), precise cosmic ray spectrum and composition measurements up to the knee energy ( $\sim 1 \text{ PeV}$ ), and gamma-ray monitoring and surveys (from 500 MeV up to 10 TeV)

In the prototype phase, the HERD consists of 5 sub-detectors, from inside to outside is : 3-D cubic calorimeter (CALO),scintillating fiber tracker (FIT), microstrip silicon trackers (SCD), plastic scintillator detector (PSD), then a transition radiation detector (TRD) is located on the lateral side.



- Collaborators:**
  - Institute of High Energy Physics, CAS (IHEP)
  - Xian Institute of Optical and Precision Mechanics, CAS (XIOPM)
  - Guangxi University (GXU)
  - Shandong University (SDU)
  - Southeast Jiaotong University (SJTU)
  - Purple Mountain Observatory, CAS (PMO)
  - University of Science and Technology of China (USTC)
  - Yunnan Observatories (YNAO)
  - North Night Vision Technology (NVT)
  - University of Hong Kong (HKU)
  - Academia Sinica
- Contributors:**
  - CEMAT - Madrid
  - ICUB - Barcelona
  - PAE - Barcelona
- IT Support:**
  - L'Aquila University
  - INFN Bari and Bari University
  - INFN Bologna
  - INFN Firenze and Firenze University
  - INFN Laboratori Nazionali del Gran Sasso and Gran Sasso
  - Scienze Institute (SISSA)
  - INFN Lecce and Salento University
  - INFN Napoli and Napoli University
  - INFN Pavia and Pavia University
  - INFN Perugia and Perugia University
  - INFN Pisa and Pisa University
  - INFN Roma2
  - INFN Trieste
- HERD-001:**
  - University of Geneva
  - EPFL - Lausanne

The work mainly contains those parts : the estimation of CALO and SCD parameters (the acceptance, efficiency, energy resolution, charge resolution and spatial resolution), the optimization of the Monte Carlo, so that the simulation is as close as possible to the data, the definition/implementation of the calibrating procedures and the analysis strategies .



SCD	Charge Reconstruction
PSD	Charge Reconstruction γ Identification
FIT	Trajectory Reconstruction Charge Identification
CALO	Energy Reconstruction e/p Discrimination
TRD	Calibration of CALO response for TeV protons

THANK YOU