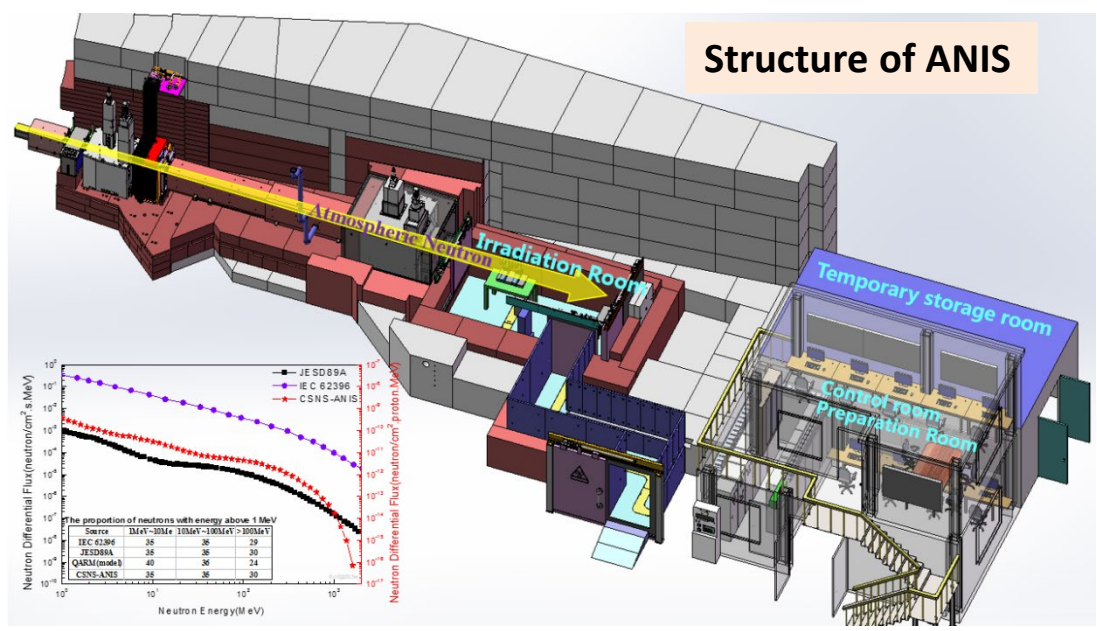


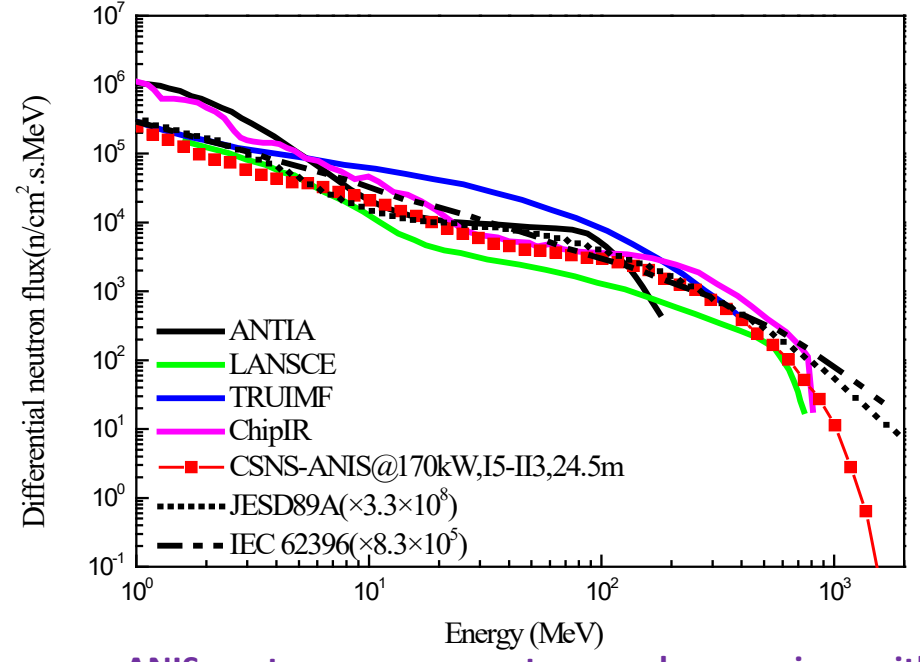
INTRODUCTION

The Atmospheric Neutron Irradiation Spectrometer (ANIS) is the facility in China that has the closest neutron energy spectrum to real atmospheric neutrons among similar facilities internationally. **ANIS energy covers the range of meV to GeV, with high and adjustable neutron flux, as well as large and flexible beam spot size.** ANIS aims to study the single event effects of devices, chips, and systems, providing neutron single event effect testing and evaluation for fields such as electronics, communications, aviation, aerospace, and transportation. In addition, **ANIS is also aimed at the irradiation and testing of advanced particle detectors and the development of neutron imaging technology.**

<https://user.csns.ihep.ac.cn/operating#/proposalListDetail?id=12>



ANIS parameters



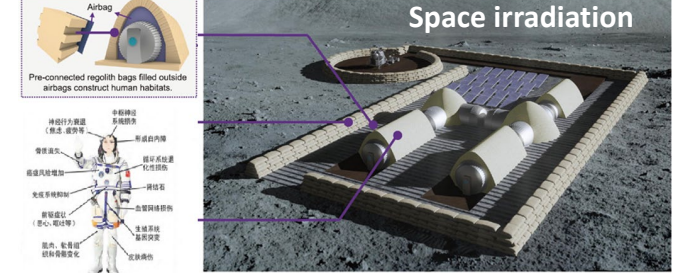
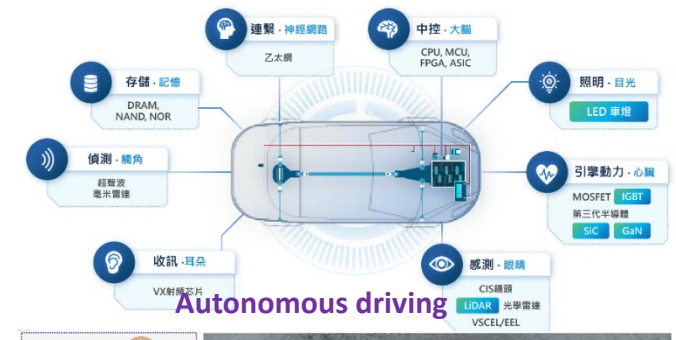
ANIS neutron energy spectrum and comparison with similar facilities internationally

Parameter	Description
Neutron energy spectrum	meV~GeV, closest to the real atmospheric neutron energy spectrum
Collimated beam size	10cm×10cm, 5cm×5cm, 2.5cm×2.5cm, 1cm×1cm
Diffuse beam size	50cm×50cm ~ 70cm×70cm
Neutron flux	Collimated beam: 10⁴~10⁷n/cm²/s (adjustable) Diffuse beam: 10³~10⁷n/cm²/s (adjustable)
Uniformity of beam	> 90%
Environment	-150°C~150°C (Vacuum or Air)
Charged particle	Optionally containing charged particles (protons)

ANIS parameter table

ANIS application

- Single event effect of chips, devices, and systems
 - Reliability testing and risk assessment
- Neutron research and applications
 - Measurement of high energy neutrons, nuclear data, neutron imaging, construction of deep space radiation fields
- Testing and irradiation of detectors and electronics
 - Semiconductor, scintillator and gas detector, electronics
- Radiation and damage mechanisms in biology, materials, and chemistry



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