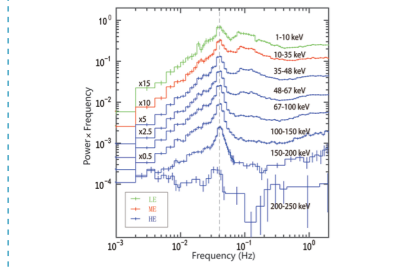


## The Research Group of *Insight*-HXMT Space Telescope Institute of High Energy Physics, Chinese Academy of Sciences



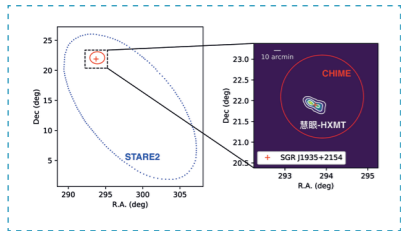
18个高能主探测器正样件

18 flight models of the HE main detectors



慧眼探测到黑洞最高能量准周期振荡

The highest energy quasi-periodic oscillations detected from a black hole by *Insight*-HXMT



慧眼精确定位 FRB 对应 X 射线暴发来源于磁星

Accurate localization of the FRB associated X-ray burst with *Insight*-HXMT.

This research group proposed and developed successfully China's first space X-ray astronomy telescope, the Hard X-ray Modulation Telescope (dubbed as *Insight*-HXMT). With the quite unique and important advantages of its wide energy band, large effective area, high time resolution and adequate energy resolution, *Insight*-HXMT opens a new window for the study of hard X-ray timing and spectral properties of black holes and neutron stars, leading X-ray astronomy in China to be a very active and well-recognized field of space science. *Insight*-HXMT discovered the X-ray counterpart associated with the fast radio burst FRB 200428, and identified it as coming from a magnetar. *Insight*-HXMT increased the detection energy of X-ray quasi-periodic oscillations in black hole binary systems by an order of magnitude, and discovered the high-speed jet closest to a black hole. *Insight*-HXMT directly and reliably measured the strongest magnetic field of 0.8 billion Tesla ever observed in the universe.

### Outstanding contributors of this research group

#### Li Tipei

As the proposer and the principal investigator (during pre-research and engineering development stages) of *Insight*-HXMT, Prof. Tipei Li put forward the scientific theme and main technical scheme of *Insight*-HXMT.

#### Zhang Shuangnan

Serving as the current principal investigator of *Insight*-HXMT, Prof. Shuang-Nan Zhang organized the scientific observations of *Insight*-HXMT and led the team to obtain many break-through scientific results.

#### Lu Fangjun

Serving as the project manager of the *Insight*-HXMT at IHEP and the chief designer of the *Insight*-HXMT scientific payloads, Prof. Fangjun Lu led the technical team to complete the development of the *Insight*-HXMT payloads.



HXMT 卫星合影  
Group photo with the *Insight*-HXMT satellite



慧眼望远镜载荷  
The *Insight*-HXMT scientific payloads

### 慧眼空间天文望远镜研究集体

推荐专家：常进、蔡荣根、武向平、汪景琇、王赤

#### 研究集体主要科技贡献：

该研究集体提出并研制成功我国首颗空间 X 射线天文望远镜“慧眼”。“慧眼”具有大面积、宽波段、高时间分辨率和高能量分辨率的综合优势，开启了黑洞和中子星系统硬 X 射线快速光变和能谱研究的新窗口，带动了我国 X 射线天文学的全面发展，使该领域成为我国空间科学的优势领域。发现了快速射电暴 FRB 200428 的 X 射线对应体，证实其来自于磁星。将黑洞系统 X 射线准周期振荡的最高探测能量提升了一个数量级，发现距离黑洞最近的高速喷流。直接而且可靠地测量到 8 亿特斯拉的宇宙最强磁场。



慧眼卫星投入使用仪式  
Ceremony of starting scientific operation of *Insight*-HXMT



慧眼集体在轨周年庆合影  
Group photo of the first anniversary celebration of *Insight*-HXMT in-orbit



慧眼天文卫星观测认证快速射电暴来自于磁星新闻发布会  
Press conference of the *Insight*-HXMT identification of an X-ray burst from a magnetar and with FRB.

#### 研究集体突出贡献者



李惕碚 Li Tipei

#### 李惕碚 中国科学院高能物理研究所

慧眼卫星的提出者、预研及工程研制阶段首席科学家，为项目提出了科学思想和主要技术方案。



张双南 Zhang Shuangnan

#### 张双南 中国科学院高能物理研究所

现任慧眼卫星首席科学家，组织慧眼科学观测并且领导慧眼科学研究团队取得了一系列重大科学成果。



卢方军 Lu Fangjun

#### 卢方军 中国科学院高能物理研究所

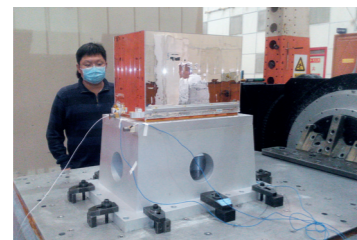
慧眼卫星项目经理、有效载荷总师，作为技术负责人领导完成了望远镜的研制。

#### 研究集体主要完成者

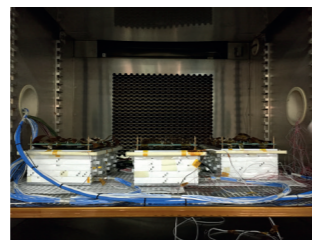
宋黎明 徐玉朋 吴枚 张澍 屈进禄 陈勇  
曹学蕾 刘聪展 张帆 张童 熊少林 贾淑梅  
张承模 潘腾 倪润立 邹自明 金永杰

### Major contributors

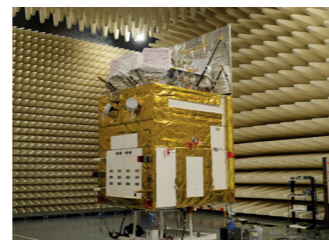
Song Liming  
Xu Yupeng  
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Zhang Shu  
Qu Jinlu  
Chen Yong  
Cao Xuelei  
Liu Congzhan  
Zhang Fan  
Zhang Tong  
Xiong Shaolin  
Jia Shumei  
Zhang Chengmo  
Pan Teng  
Ni Runli  
Zou Ziming  
Jin Yongjie



中能探测器机箱力学振动试验  
ME-Box in vibration test



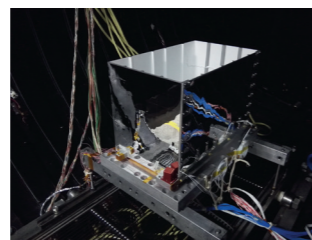
低能探测器机箱热循环试验  
LE-Box in thermal-cycle test



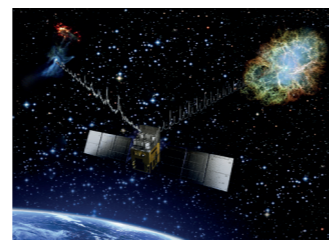
慧眼卫星电磁兼容性试验  
The *Insight*-HXMT satellite in EMC test



望远镜安装现场  
Installation of the HXMT telescopes



中能探测器机箱热试验  
ME-Box in thermal-cycle test



慧眼卫星开展脉冲星导航试验示意图  
Illustration of the in-orbit demonstration of X-ray pulsar navigation with *Insight*-HXMT