

IAF SYMPOSIUM ON ONGOING AND NEAR FUTURE SPACE ASTRONOMY AND
SOLAR-SYSTEM SCIENCE MISSIONS (A7)

Space Astronomy missions, strategies and plans (1)

Author: Dr. Antonios Manousakis

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Prof. Emrah Kalemci

Sabanci University, Türkiye

Prof. Alim Rüstem Aslan

Istanbul Technical University, Türkiye

Mr. Yousuf Faroukh

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Ms. Tarifa AlKaabi

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Ms. Amel Alhammadi

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Mrs. Maryam Sharif

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Mrs. Maryam Alansaari

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Ms. Noora Alameri

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Ms. Maryam Al-Qasimi

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Mr. Ahmed Altunaiji

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Mr. Ali Almajedi

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Mr. Abdulrahman Sulaiman

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Ms. Nafisa Zian Imam Shafi

Sharjah Academy for Astronomy, Space Sciences and Technology (SAASST), United Arab Emirates

Mr. Kaya Gokalp

Sabanci University, Türkiye

Mr. Refik Yalcin

Sabanci University, Türkiye

Mr. Ali Murteza Altingun

Türkiye

Mr. Onur Öztekin

Istanbul Technical University, Türkiye

Prof. Hamid Al Naimiy

Sharjah Academy for Astronomy, Space Sciences, and Technology (SAASST), United Arab Emirates

IN-FLIGHT CALIBRATION AND INITIAL OBSERVATIONS WITH THE IXRD DETECTOR ON

Abstract

The deployment of the iXRD (improved X-ray Detector) equipped with Cadmium-Zinc-Telluride (CdZnTe) on board Sharjah-Sat-1 heralds a significant leap in capacity building at University of Sharjah, and setting the basis for developing further payloads in the future. This instrument, tailored for observing within the energy range of 20-200 keV, targeting the detailed examination of a handful of very bright high-energy astrophysics cosmic sources from space. Integral to the mission's success is the precise in-flight calibration of the iXRD detector. This calibration is crucial for ensuring data integrity and the detector's spectral accuracy. The Crab Pulsar have been selected as the primary validation and calibration targets, due to their intense and well-characterized X-ray signatures, offering ideal conditions for fine-tuning the iXRD's operational parameters. This abstract outlines the technical approach and anticipated scientific advancements stemming from the calibration and early use of the iXRD detector on board sharjah-sat-1, underscoring its importance in exploring the high-energy universe.