

## 現在のHEATの開発状況

### Current status of HEAT development

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HEAT (Hayabusa2/Hera Exploration Assistant for TIR/TIRI) is a calibration tool for thermal imagers; TIR on Hayabusa2 and TIRI on Hera. These imagers observe thermal infrared radiation from small bodies. The primary goal of TIRI/TIRI is to know the origin and evolutionary history of asteroids based on thermo-physical properties. We have developed HEAT through the missions of Hayabusa2 and Hera. HEAT has four functions, Calibration, DB, Visualization, and Conversion. The developing HEAT calibrates 1024 \* 768 (~ 800,000) pixels of TIRI images one by one. It requires about 100 times the performance of the previous HEAT. The current HEAT has been published on the web page:

<https://github.com/HEAT-Develop/HEAT>. Saito, Master thesis of the University of Aizu (2023), has refactored and updated HEAT to apply another mission by managing metadata with preference files in XML format. Here we will report the new HEAT with ground tests of TIRI based on high-performance computing. We have changed the outputs of the calibration function from a set of coefficients pixel by pixel to a united FITS file. We have updated the interface of the conversion function and applied high-performance computing in a calibration process.

We have changed outputs of calibration function from a set of coefficients pixel by pixel to a united FITS file. We have updated interface of the conversion function, which follows input of FITS file format. We have also applied high performance computing in calibration process.

キーワード : Hera、TIRI、小惑星

Keywords: Hera, TIRI, asteroid