

# Timing Session Report

2019.5.23  
14<sup>th</sup> IACHEC meeting  
Yukikatsu Terada (Saitama U.)

# Status report, 2019

## 1. Two talks on Timing

- ü NuSTAR (Matteo Bachetti)

  - Improvement of timing capability of NuSTAR

- ü Hitomi&XRISM Resolve (Makoto Sawada)

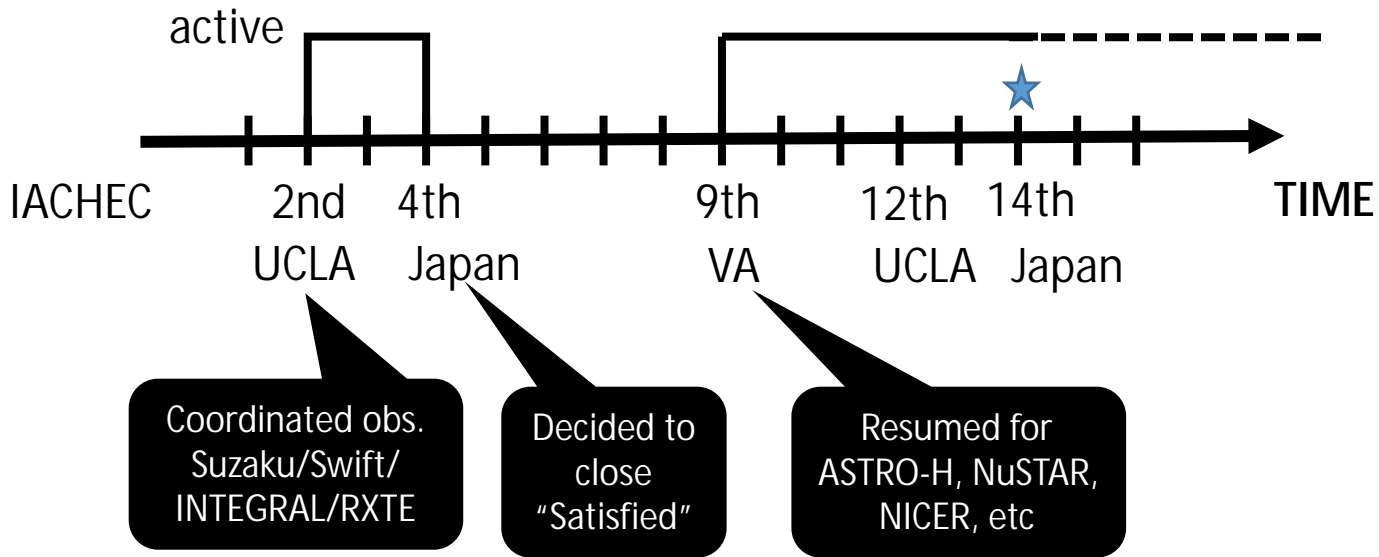
  - Introduction of time assignment and effect & uncertainties in processing wave form in orbit

## 2. Discussion

- ü Goal of Timing session & short term working

- ü Define PoC of missions of timing topics

# Light curve of Timing session activity



14th IACHEC meeting @ Shonan

# Goals of Timing Session

- 1. Share information on Timing calibration methods/protocol, lessons learned (to enhance timing capability)**
  - ü Suzaku, Hitomi (2017,2018, 2019)
  - ü NuSTAR(2019), NICER (2018)
  - ü HXMT(2018), Astrosat
  - ü Future missions (inc. XRISM, eROSITA, etc)
- 2. In-orbit timing calibration plan/observations**
  - ü Calibration plans for near future missions
  - ü Requirement of timing coordinated observations
  - ü Analyses of GO coordinated observations
- 3. Studies on Timing**
  - ü effects on timing products (power spec, light curve etc) by the detector's behavior (dead time, grade selection of calorimeter etc)
  - ü Others.

# Short term Working Plan 2019

## 1. Share information

- Summary of current timing status & lessons learned from missions
  - Gather published papers on timing by missions & Update Timing group wiki page to
  - Consider to publish current results on conference like SPIE etc.
- Identify problems on timing by missions
  - Set up Timing MLs. (A/I Yuki sets up)

## 2. In-orbit timing calibration plan/observations

- Survey current archive data of coordinated observations and perform analyses on timing calibration aspects
- Circulate requests on timing calibration among timing MLs
  - NICER could be the reference of timing in these days (like RXTE in previous IACHEC activities)

## 3. Studies

- Note: NuSTAR has published papers on effects of dead time etc.
- *This is the next step.*

# Mission PoCs on Timing topics

Mission	Name
Chandra	Vinay Kashyap
XMM-Newton	Felix Fuerst, Jacob Ebrero
INTEGRAL	Guillaume Belanger, Volodymyr SAVCHENKO
NuSTAR	Matteo Bachetti
NICER	Craig Markwardt
HXMT	Xiaobo LI
Astrosat	Gulab Dewangan
XRISM	Yukikatsu Terada (mission), Makoto Sawada (Resolve)
eROSITA	Ask Vadim Burwitz
Others	Welcome!