

## Executive Summary contribution #896

16 July 2021

### **Title: Fast X-ray variability of radio galaxy M87**

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#### **■ What is this contribution about?**

In this contribution, we report the results of study the fast X-ray variability of radio galaxy M87.

#### **■ Why is relevant / interesting?**

M87 is one of the TeV detected radio galaxy and it indicates particle acceleration up to TeV. But the location of acceleration is not known, and this topic is interesting for origin of very high energy cosmic rays.

#### **■ What have we done?**

We did study X-ray variabilities with Chandra, Suzaku, NuSTAR telescope. Because X-ray emission with soft spectrum indicates synchrotron radiation, it is able to discuss the magnetic field and particle energy from time scale of variabilities.

#### **■ What is the result?**

We found first X-ray intraday variability of M87 in 2006 from the Suzaku observation. It is X-ray flaring period of HST-1 region (~100 pc from the core), it indicates HST-1 is source of this fast variability.

We calculated the magnetic field strength from the decay time scale, we found it is enough to do particle acceleration up to TeV.