

The INAF Radio Telescopes Data Archive: a geographically distributed infrastructure toward Big Data and FAIRness.

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INAF manages three single dish radio telescopes (Medicina, Noto and Sardinia Radio Telescope, SRT). The three dishes are also part of the *European VLBI Network* and the *International VLBI Service for Geodesy & Astrometry*. Also, SRT is involved in international collaborations dedicated to pulsar observation, namely the *European Pulsar Timing Array* and the *Large European Array for Pulsars* project.

The increasing importance of Science Archives and archive mining in defining the ultimate productivity of an observing facility motivated the *Italian Centre for Astronomical Archives* (IA2) service to develop and maintain the *INAF Radio Data Archive*. Such a geographically-distributed archival facility flexibly handles different data models and formats, also supporting data discovery/access through *Virtual Observatory* (VO).

In this contribution I will give an overview of the archival system, addressing challenges posed by increasing data rates/volumes produced by the state-of-the-art digital backends. I will also present the INAF effort in modeling such data to enable their discoverability, access and retrieval through VO tools and services.

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