

Towards FAIRness of radio data in the SKA era

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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) to develop and maintain the INAF Radio Data Archive. Such a geographically-distributed archival facility flexibly handles different data models and formats aimed at data discovery/access through Virtual Observatory (VO).

The activity related to the INAF Radio Data Archive led us to join the IVOA Radio Interest Group, whose goal is the interoperability, and more generally the FAIRness, of radio data. In this talk we will present our contribution, mainly focused on the definition of requirements and use cases for the representation of radio astronomy data in the VO. This implied the identification of metadata concepts needed by the radio domain that are not currently supported by the VO, hence the definition of a radio-specific data model that has been published as an IVOA Proposed Recommendation.

Complementary to data discovery, archival models for data ingestion and operations are required by large projects like the SKA and its SKA Regional Centre Network. In this respect we will present our activity within the Orange and Azure SRCNet Teams, mainly focused on the definition of observatory and advanced data products, their relation with science use cases and the definition of requirements for visualisation tools. Also, a fundamental contribution is being given on the mapping of SKA metadata onto existing and widely used data models, like the CADC Common Archive Observation Model and the IVOA ObsCore itself.

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