The International Virtual Observatory Alliance

Observations of the sky by means of increasingly powerful ground-based and space telescopes have resulted in a rich and rapidly growing amount of digital data. Simulations of the universe based on physical theoretical models are also increasingly generating large archives of digital data that can be compared with the observations. All these observational and theory digital data provide a tremendous tool for the astronomers to investigate the properties and evolution of the Universe.

The International Virtual Observatory Alliance (IVOA) is the standards organization for digital astronomy data access and interoperability, both for space and ground data. Constituted in 2002, the IVOA has now been joined by 21 national and international VO projects worldwide.

Figure 1. – The spread of the IVOA project on the map of the world (left), and logos of the projects currently in the IVOA (right).

At the core of the VO is a set of standards developed within the IVOA to support interoperability. The widespread and increasing adoption of IVOA standards by the major data centers and archives in astronomy, ensures that the astronomy data is FAIR (Findable, Accessible, Interoperable and Reusable).

IVOA Working and Interest groups meet twice yearly to advance the development of standards and their application to astronomy research and outreach. Interfaces and tools built upon IVOA standards are in use in the major astronomical archives and data centers.

Collaboration with and input from new projects across all areas of astronomy is sought. The UN-Open Universe Initiative would be a new important project to make use of IVOA standards.

www.ivoa.net