

THE INTERNATIONAL VIRTUAL OBSERVATORY: A TOOL FOR SCIENCE

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In the past ten years, the concept of Virtual Observatory (VO) has increasingly gained importance in the domain of astrophysics, as a way of seamlessly accessing data in different wavelengths domains stored in digital archives. There are many reasons why the VO is useful for the development of science: to monitor time variability of phenomena, to compare phenomena in different bands, to increase return for investment (by fostering data re-use for scientific, educational and outreach purposes), to perform statistical analysis and mining on large quantities of data. The International Virtual Observatory Alliance (IVOA) has paved the way for the VO to become a really useful tool for the scientific community, by promoting standards, by defining data interoperability methods, by fostering the needed coordination among data providers. But the VO is more than just archives and standards: it is also infrastructure, basic software tools, advanced applications, dissemination to the science community to allow take-up and the production of science, education to training a new breed of astronomers.