

Virtual Observatory: India

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The concept of virtual observatories has recently emerged to enable astronomers to deal with the management, analysis, visualization and mining of vast quantities of astronomical data. The task is difficult because of the diversity of data obtained at different wavelengths and the very different techniques used in the analysis. There is the need to develop data formats, interoperability standards, registries, data bases, and tools for exploring and using the multiwavelength and multiscale data. This is being done through large and small virtual observatory programmes based in several countries, and federated under the International Virtual Observatory Alliance.

I will describe in my talk the virtual observatory concept, and the developments which have taken place over the last few years under that banner. I will particularly consider the applications developed by the Virtual Observatory - India project, through an innovative and highly productive collaboration between astronomers and professionals from the information technology industry, and plans for future work.

The tools and techniques developed by virtual observatory programmes can be useful in any field where large amounts of data are used, like high energy physics, remote sensing, population studies and bioinformatics. I will describe some possible applications outside astronomy, and the great scope which exists for interactions between people working in completely different disciplines.

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