FIRST EXPERIENCE OF
VIRTUAL REALITY AT INAF-OATs

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Virtual reality: what it is

Virtual reality (VR) is an experience taking place within a computer generated reality of immersive environments.

A person using virtual reality equipment is able to look around the artificial world, move around in it, and interact with virtual features or items.

This effect is possible thanks to VR headsets and (optionally) hand controllers.

Virtual reality: how we do it

VR needs 360° images (photospheres).

One method by which virtual reality can be realized is simulation-based virtual reality (es. sky images).

The second method is real 360° images (or videos) to explore real locations.

We buy VR headsets, 360° camera and a license to Virtours (a complete platform for the creation, management, publication and sharing of virtual tours).

Virtours controller

Pairing function between visors and a master tablet.

Allows an operator to reproduce in real time on the tablet and (optionally) to an external monitor or TV the viewing experience of the VR visors.

Groups of users wearing a visor can be guided by an operator on how to get the most from specific elements of content.
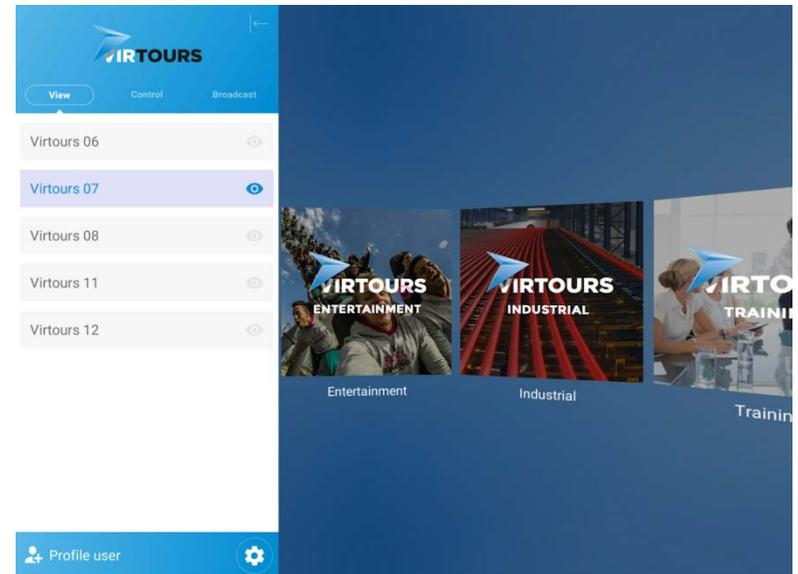
Virtual reality: applications

Virtual Reality is an innovative and fascinating mode for data visualization, suitable for: educational activities in schools, public outreach events and data visualization for science.

Our first experience: VR tour from the dome of the Astronomical Observatory of Trieste to biggest telescopes in the world, ELT and multi-wavelength sky.

360° images of multi-wavelength
sky generated from HiPS in Stellarium

In the future
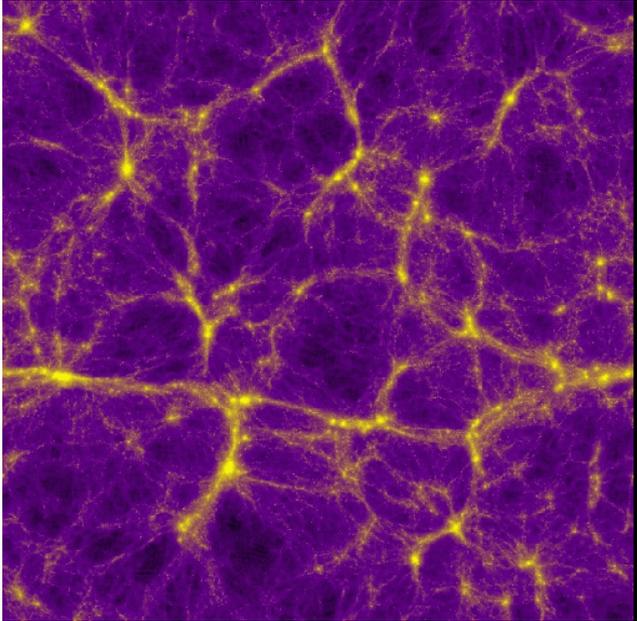
We are working to visualize 360° cosmological simulations.

We will work to visualize data (images and catalogues) from VO in real time, with VR visors and controller connected to VO servers.

We just started to deal with VR (2 months ago),
work is in progress so VR & VO update will come in future interops.

We are receptive for comments, ideas and collaborations