

23rd SYMPOSIUM ON SPACE ACTIVITY AND SOCIETY (E5)  
Space as an Artistic Medium (4)

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TIM OTTO ROTH AND DR. ANTONELLA NOTA: BEYOND 'PRETTY' PICTURES – "FROM THE  
DISTANT PAST" PRESENTS THE COLOUR HEARTBEAT OF THE PRIMORDIAL UNIVERSE  
ENCODED IN HUBBLE SPECTRA AS PUBLIC LIGHT ART**Abstract**

The discoveries of black gaps in the solar spectrum by Joseph Fraunhofer revolutionized astronomy almost 200 years ago. This way to describe light by its decomposition as colour intensity diagram changed the discipline into astrophysics as a colour analyzing discipline. For the very first time spectra of celestial objects are taken up by the German artist Tim Otto Roth in a public art project using latest spectral data from the Hubble Space Telescope. *From the Distant Past* translated spectra into bright green animated waves pulsing in Autumn 2010 and 2011 over the architectures of the Palazzo Franchetti in Venice, the Maryland Science Center in Baltimore and the American Museum of Natural History in New York City. The green undulations projected with high power lasers are a minimalist representation of the oldest colours in the universe as observed in the spectra of the most distant objects in the universe discovered by the Hubble Space Telescope.

*From the Distance Past* reveals that Hubble but also other astronomical telescopes do not only produce the familiar and spectacularly 'pretty' pictures of the sky. The astronomer's heart is often made to beat faster by the analysis of the light of the most distant objects in the universe by the use of 'spectroscopy': the splitting of light into its constituent colours by a prism or a diffraction grating.

By its luminous animation on the public facades, this faint colour echo of the primordial universe appears less as an abstract idea than as an anthropomorphic association with a heartbeat or a brain wave. *From the Distant Past* is not only an extraordinary art science project about the origins of the universe that uses data from the Hubble Space Telescope, it is also an artistic reflection on the phenomenon of colour by the means of concept art using laser light as a minimalist tool of graphical notation.

*From the Distant Past* was developed in close cooperation by Tim Otto Roth with Hubble Space Telescope scientists. Consequently the artist will present the project together with Antonella Nota (ESA) from the Space Telescope Science Institute. Tim Otto Roth will talk about the technical challenges bringing the laser projection on the giant sphere of the Hayden planetarium and why he felt attracted to reflect data from Hubble. Antonella Nota will describe Hubble spectral data and talk about the scientific results that are obtained from them.