



Fig. 2. Tim Otto Roth, *I See What I See Not*, cosmic particle shower live at the art façade in Munich, 76 RGB neon light elements controllable via Internet, 9 × 6 m, 700 square feet, 23 February 2005. (© Tim Otto Roth)

A WALK ON THE RETINAS OF THE EXTREME SCIENCES: A MINIMALIST CONCEPT FOR AN INTERNET-BASED LIGHT ART FAÇADE IN MUNICH

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With *I See What I See Not* [1] (Fig. 2 and Color Plate D No. 2), I wanted to create a cosmic matrix showing the most advanced results of the imaging machines in astronomy and elementary particle physics. In 2003 I was invited to develop a concept for the light façade of the Communication Group Serviceplan to be shown during the winter months of 2003–2004. This façade, close to the Lenbachhaus in Munich, is distinctive because its 76 RGB neon light panels, spread over 63 square meters, can be controlled via the Internet.

This art-project façade represented a formal challenge. The basic question was whether it would be possible to show something that could still be called a picture on an area that consisted solely of 10-×-10-pixel elements—corresponding to the diameter of a

match on a normal computer screen. Therefore I decided to explore the images of astronomy and particle physics. In these advanced disciplines, a few pixels detected by the image sensors and detectors can refer to an astronomical object or to a subatomic particle. So I zoomed in on the pixel level of images from, for example, the Hubble Space Telescope, the Chandra X-ray Observatory, the Very Large Telescope at the European Southern Observatory (ESO), the Wilkinson Microwave Anisotropy Probe (WMAP) or Brookhaven's Solenoidal Tracker at RHIC (STAR) detector and conveyed the pixels 1 to 1 onto the light elements of the art façade. In this way the play of light on the art façade became a walk on the retinas of the extreme sciences that investigate the most distant boundaries of the cosmos.

For me it was important that this deep focus document what happens in science without being merely illustrative. So the project in Munich became a formal play with faraway and close-up perspectives. It also reveals, however, the aspect of revelation in science: Every single pixel is a potential sign representing a photon that has traveled for aeons through the universe or a subatomic particle. What makes these images so different and interesting is this *Aufladungsprozess* in which every

pixel gains an enormous significance and figurative power.

To keep the project closely tied to scientific results, I conducted an intensive dialogue with astronomers and particle physicists. The most impressive event in this process was a visit to ESO's Paranal Observatory in Chile's Atacama Desert. There I had the realization that astronomical observations involve more than just acquiring data. I felt a certain metaphysical tension in observing the scientists looking up into the eternity of the sky using the most advanced technology.

In winter 2004–2005 I took a more immediate look at the work of scientists, putting more emphasis on the raw images and data. During that winter cycle, the immediate, merely processed results from astrophysics and elementary physics were transmitted in near-real time to the façade. The partners cooperating in this live transmission were: the Max-Planck-Institut für Radioastronomie/Dominion Radio Astrophysical Observatory, the Solar and Heliospheric Observatory (SOHO) mission, the Forschungszentrum Karlsruhe, Brookhaven National Laboratory, the Stanford Linear Accelerator Center, Fermilab and the Japanese High Energy Accelerator Research Organisation (KEK). The project could be followed live daily via webcam between 17:00 and 20:00 MET until the end of March 2005. With *100 Days—100 Imachinations* [2], I was to launch a further Internet-based project at the end of November as a large projection work at the ZKM Karlsruhe linking various international scientific institutions such as Schloß Dagstuhl and the High Altitude Research Station Jungfrauoch (Switzerland). Finally, the project *Pixelsex* [3] (summer 2005) brought a life-science topic live to the largest light wall on the 80-meter-high KPN Telecom Tower in Rotterdam, showing simulations of myxobacteria based on cellular automata.

Last but not least, I take this opportunity to say thank you to the scientists who worked with me and are also a part of the project.

References

1. <www.kunstfassade.de>.
2. <www.imachination.net/next100/>.
3. <www.pixelsex.org/>.