

Physics and Art(eFact) 14/15 September 2018, Villa Elisabeth, Berlin

The light and sound installation AIS³ is the expression of a special liaison of physics and art. With this sound laboratory Tim Otto Roth translates data of the IceCube neutrino telescope into an audio-visual experience. The huge astrophysical experiment located at the South Pole transcends the limits of human perception and imagination registering the most exotic objects of particle physics: cosmic neutrinos.* Above all, AIS³ is an experimental ground to explore space in new psychoacoustic and visual ways. In occasion of the premiere in Berlin, a transdisciplinary symposium will take place asking for the relationship of artefact and nature and focusing implicitly upon the relation of the arts and physics (and its neighbouring disciplines). Here the symposium traces the physical dimension artists and scientists are confronted with – speaking the material and embodied quality of artistic and scientific experiments.

The material confrontation with its object of investigation has always been part of artistic practice. In the sciences it was introduced quite lately after Renaissance expanding the purely observational methods by empirical experiments. This experimental approach – Galileo Galilei was one of its leading pioneers – changed the relationship of the formerly theoretical based sciences and the ‘inferior’ mechanical arts. Since that time, the materiality of the instrumentation and of the object of investigation changed dramatically for physicists: Galilei’s telescope and the IceCube experiment as the biggest particle detector are worlds apart. The highly cited ghostlike nature of the neutrinos raises the question how to juggle between fact and fiction. This is an old playfield in the arts, but it needs to be redefined today: The symposium is also asking, how artefacts in the arts and the sciences as physical-material facts might counteract a post-factual relativity.

Of course the symposium alludes to the „Two Cultures“ postulated by C.P. Snow in his often-quoted talk from 1959. However, not only the relationship of the two cultures of the sciences and the humanities needs to be discussed, but also eventual further evolving cultures, for instance affected by digital technologies. In that context the discussion often refers to the potential of the arts to address the public on different ‚channels‘. Scientists tend to have a pragmatic view on this functional value: The arts are conceived as ‘translators’ to make a content accessible to interest groups, which are normally not interested in the sciences. It needs to be discussed, if such a transformation can really function and how it might differ from conventional science communication. Above all the potential surplus for scientists themselves needs to be taken into consideration, since even for the expert an artistic translation might offer a new approach to his own experiment.

The symposium focusses on forms of art revealing a certain formal or conceptual affinity to physics. The “big science” experiments in physics differ from experiments in other scientific disciplines by its extraordinary dimension to be experienced by the human actors as materiality and ‘immateriality’: The sheer size of physical apparatuses as IceCube or the Large Hadron Collider at CERN boldly contrasts its invisible object of investigation. Here visualizations of the

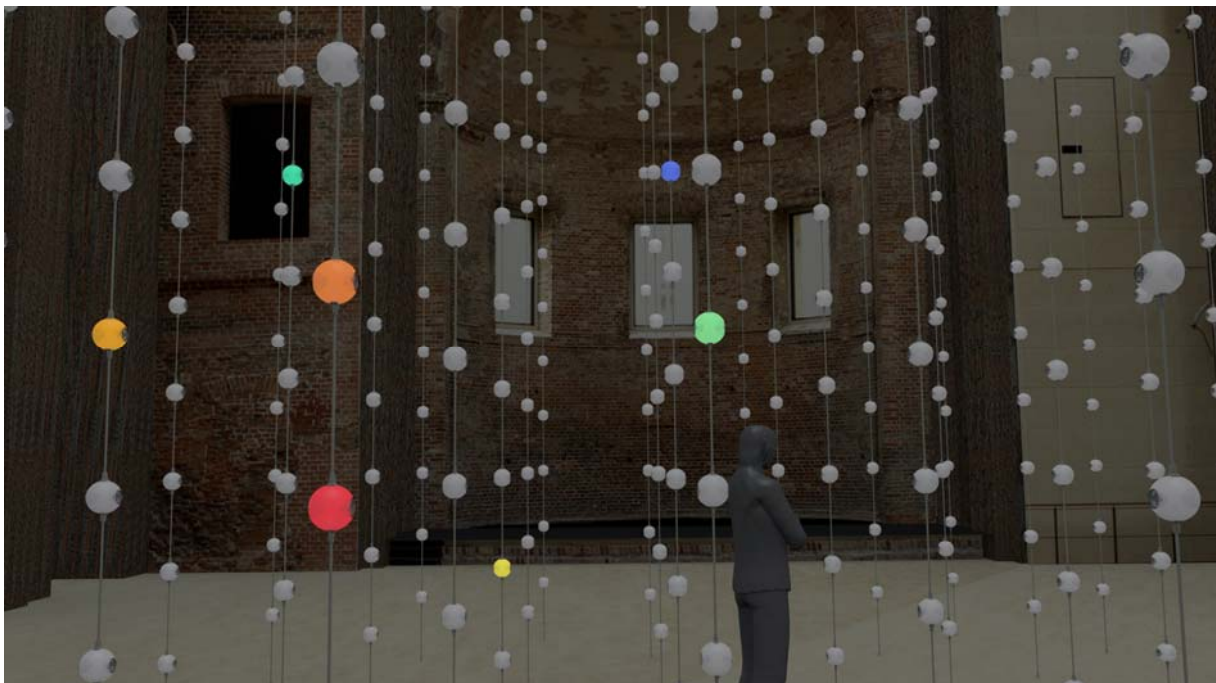
measured data and extended simulations play a major role exploring this barely imaginable part of reality. The boundaries between fact and artefact seem to blur for the ordinary spectator.

While aesthetic criteria might serve as a guideline for the search of an optimal scientific solution, the artistic vanguard – similar to the sciences – enters new terrain. This is the reason to ask for the role of concepts as the “sublime”, “beauty” and the “new” in the arts and sciences.

The speakers represent an extended spectrum of different approaches to the field of the arts and sciences comprising scientists and humanist, curators, science and culture journalists. The conference languages are English and German. The public symposium will take place on 14/15 September 2018 at the Villa Elisabeth in Central Berlin, the neighbouring building of the church St. Elisabeth, where the installation AIS³ can be experienced.

Conference chairs: Dr. Christian Spiering & Dr. Tim Otto Roth

*IceCube is a particle detector frozen into the deep, transparent Antarctic ice. It registers the tiny light signals emitted from the rare interactions of neutrinos with the atomic nuclei of the ice. Neutrinos, the “ghost particles” of physics, are generated in cosmic processes and convey unique information about their sources. IceCube consists of 5160 light sensors, encapsulated in 30-cm diameter glass spheres and covering a full cubic kilometer of South Polar ice. AIS³ translates IceCube into an 8x8x8 m³ immersive environment. LEDs and loudspeakers housed in 440 translucent spheres make the particle tracks visible and audible. Further information on: www.imachination.net/ais3



Simulation of AIS³ in St. Elisabeth