

being outperformed by none other than David Hilbert.

To narrate the post-1915 story, separate chapters are dedicated to the legacy of the general theory and Einstein's life. This is a bit of a pity, as intertwining biographical elements and scientific developments worked so well in the earlier parts of the book. But then again, the theory did start to have a life

of its own, spurring a string of fascinating experimental and theoretical findings that continues today — the Big Bang, black holes and dark matter are all part of the cosmology stemming from Einstein's tensor equations.

If there has to be a criticism of the book, it is perhaps that it insists too hard on the general theory being Einstein's finest accomplishment. Leaving aside the

need, especially in the case of Einstein, for identifying a 'greatest achievement', many would agree at the outset that his comprehension of gravity, matter, space and time is an unequalled intellectual tour de force — of which *Einstein's Masterwork* is an excellent celebration indeed. □

REVIEWED BY BART VERBERCK

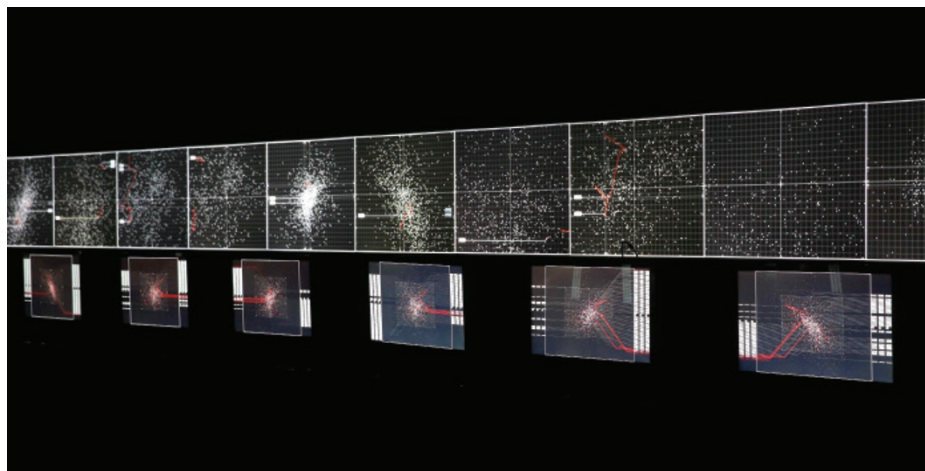
Patterns in the dark

EXHIBITION

It is difficult to remain unimpressed by CERN, on many levels. The sheer size, intricacy and technology of the machinery deployed over tens of years to reach ever higher collisional energies, to probe ever deeper into the fundamentals of nature, is a testament to the determination of an

unprecedented collective scientific effort. At the same time, those very same instruments constitute the only experience that we as humans can obtain of the microscopic underlying physics that CERN has been built to study.

A good portion of today's research in physics does not rely on direct interaction with the objects of study, simply because these are outside the reach of our senses and exist on extreme time and length scales. But in particle physics and, in particular, at CERN, the distance between us and the physical phenomena is pushed to another level of complexity.



It is perhaps this very complexity that inspired the work of Ryoji Ikeda, who, with his exhibition *Supersymmetry* (<http://supersymmetry.ycam.jp/en/>), which was recently at The Vinyl Factory in London, unveils an aesthetic representation of the intangible subatomic world.

Ryoji Ikeda spent six months at CERN as artist-in-residence after receiving the Prix Ars Electronica Collide@CERN Award in 2014 for his media art drawing based on CERN's processing and analysis of data. *Supersymmetry* is clearly the result of this experience, but the name might be misleading. Whereas, for the physicist, at least, the exhibition has little to do with SUSY, the audio-visual experience does create the feeling of being inside a bubble chamber, the eerie sounds marking the trajectories of unseen particles. And the retro touch seems reminiscent of some areas of CERN, like certain dusty control rooms and old-fashioned offices.

The *Supersymmetry* exhibition is split into two parts, akin to the two levels on which we perceive physical phenomena. The first one, the 'experiment', allows the visitor to directly witness a phenomenon: three tables illuminated in the dark featuring moving axes and hypnotic patterns of hundreds of

tiny beads (pictured left). The second dark room hosts the 'experience', which provides an overwhelming sensory immersion into the maddening world of data, analysed as if from a CERN control room. One is assaulted by elusive, fast-changing sound and image patterns on tens of monitors and wall projections (pictured above). At times one can almost make sense of the large amounts of data, only to be lost again in a sea of noise. Finding oneself continuously on the brink of grasping a pattern in an otherwise discordant cacophony seems also to be the theme of most of Ikeda's music, which he performed live in the *Supercodex* show at the Barbican, London, on 27 May 2015.

As in his previous works, Ikeda brings data alive in a disconcerting yet eerily beautiful experience. Taking on particle physics as a source of inspiration is certainly a challenge, but he prevails, providing us with a fascinating way of seeing the unseen. □

REVIEWED BY IULIA GEORGESCU AND FEDERICO LEVI

Information about upcoming exhibitions worldwide can be found at <http://www.ryojiikeda.com>.