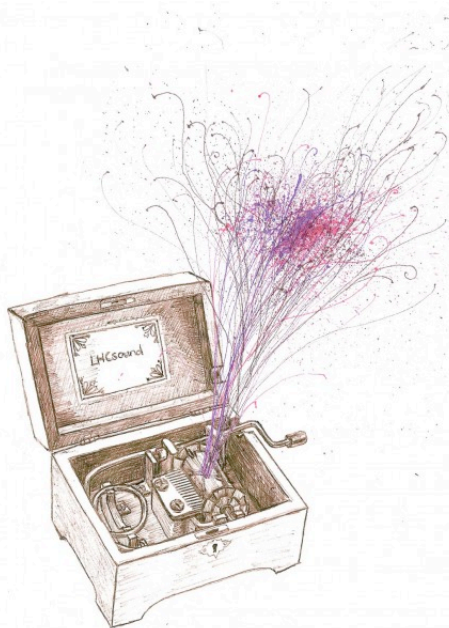# LHCsound: Sonification of ATLAS data

Using current state-of-the-art techniques employed in the music industry, we are producing audio representations of the LHC data which we hope will be musically interesting and therefore will engage and involve people who would not ordinarily have access to, or interest in, the ongoing experiments at CERN.

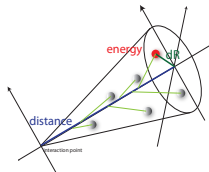http://www.lhcsound.com

LHCsound: Sonification of ATLAS data

- ATLAS data → [Athena software] → log file → breakpoint file → [Compositional software] → audio file.
- Map objects tracks, clusters, jets, missing energy to pitch, timbre, and volume.

Fat Higgs jet example: (Click pic to play)

cluster energy : volume

cluster dR from jet axis : pitch

cluster distance from IP : time

Tracking 'Phi-sweep' example:

track pt: pitch

track ϕ position : time

(analogous to radar)

The **transverse plane**

The azimuthal angle 'phi': ϕ

A slice in phi: $\Delta\phi$