When you think about it, the particles being slammed into each other at the Large Hadron Collider (LHC) at the CERN facility in Switzerland are kind of like people in a mosh pit at a black metal concert. But that's not the only thing the particle accelerator has in common with music. Apparently, if you take the data coming from one of the LHC's collision chambers and fool with it a bit, you can actually listen to music being made by protons colliding. That's exactly what a new project called the Quantizer has done – and you can listen in.

The Quantizer is a project put together by MIT master's student Juliana Cherston, with doctoral student Ewan Hill from the University of Victoria. The program uses data from events occurring in the ATLAS experiment at CERN, which is one of the detectors used as part of the LHC.

"Beams of particles from the LHC collide at the centre of the ATLAS detector making collision debris in the form of new particles, which fly out from the collision point in all directions," says CERN. "Six different detecting subsystems arranged in layers around the collision point record the paths, momentum, and energy of the particles, allowing them to be individually identified. A huge magnet system bends the paths of charged particles so that their momenta can be measured."

Cherston and Hill looked at all that data and decided that they could make music with it.

"Quantizer takes the data released through the ATLAS Live website and applies a noise filter," says CERN. "It then clusters the data geometrically, scales it and shifts it – to ensure that the output is in the audible frequency range – and then maps the data as notes."
The resulting music matches the physics happening inside ATLAS including the fact that there are lots more lower notes – which correspond the abundance of low-energy particles in the machine – than higher notes, which match up to the fewer number of high-energy particles. When the ATLAS experiment isn't running, the program streams archived sounds to you from previous collisions.

Quantizer lets you listen to the ATLAS data through three different filters: Cosmic, House and Suitar Samba. Each provides a different track based on the data and each is oddly captivating – especially when you think about how the music is being generated.

Although Quantizer was unveiled during the Montreux Jazz Festival last summer, the website making the music available to the public has just been launched. And if you're both scientifically and musically inclined, don't miss the tab at the top of the Quantizer screen that reads: "Your physics sonification here?". It offers even more people the chance to make music from subatomic collisions.