Alice (2012)

At CERN the ALICE experiment is used to make nuclei of lead collide at a very high speed. Before creating the collisions all electrons have been removed from the lead nuclei.

The purpose of colliding lead nuclei is to create a quark-gluon plasma. This plasma is like a soup of almost completely free quarks and gluons. The Big Bang theory states most of the universe was a quark-gluon plasma when the universe had existed for circa one micro second (0,000 001 second).

Scientists create the plasma to learn more about it. They want answers to questions like “is the plasma more solid or more like a gas?” and “how does the plasma influence other particles?”. Scientists are curious!

One particle that clearly alters its characteristics in the quark-gluon plasma is the joint J/Ψ particle that consists of two charm quarks. In the middle of the clock is such a particle.

The pointers carry electrons. J/Ψ can decompose in different ways. One of them is to create two electrons.

Gluons surround the clock. A gluon always carry two “colours”.