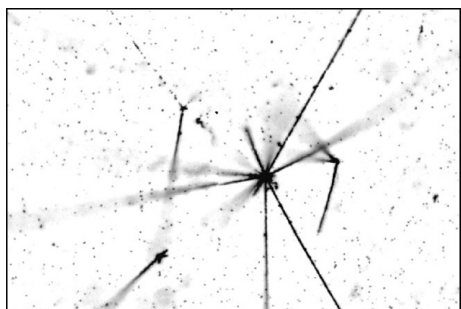## NEWS

Collaborations

JUNO, AN UNDERGROUND GIANT TO CAPTURE NEUTRINOS

An international agreement, which marks the birth of the *Jiangmen Underground Neutrino Observatory* (JUNO), in China, was signed in July. This new scientific project includes, in addition to China and Italy that participates with INFN, Czech Republic, Finland, France, Germany, Russia and the US. Hundreds of scientists from all over the world, gathered at the Institute of High Energy Physics (IHEP), announced the establishment of the international collaboration with the purpose of realizing a giant underground neutrino detector. It will be based on scintillator liquid technology, as Borexino experiment at the INFN Gran Sasso National Laboratories (LNGS). "We are very excited about this experiment and it's a wonderful and comprehensive physics program", said Gioacchino Ranucci, INFN scientist and deputy spokesperson of the collaboration. We are committed to the success of JUNO, since we could bring in our broad expertise carried out for almost two decades at the Gran Sasso National Laboratory."

Science

AEGIS, THE EFFECT OF GRAVITY ON ANTIMATTER

The AEGIS experiment (*Antimatter Experiment: Gravity, Interferometry, Spectroscopy*) at CERN, with the collaboration of the INFN, has measured the deflection of a beam of antiprotons under the effect of an extremely weak magnetic force, using an instrument called "Moiré deflectometer". In this initial test, scientists were able to verify the efficiency and sensitivity of the instrument, which has been designed to study the effect of gravity on antihydrogen atoms. Whether antimatter is subject to the effect of gravity in the same way as matter has never been demonstrated experimentally. "That is very probably true," explained Gemma Testera, deputy spokesperson of the AEGIS project and coordinator of the INFN's collaboration. "But our measurement will be very helpful for understanding how to formulate a quantum gravity theory and thus a unitary vision of the fundamental forces of nature".

Awards

GSSI: POST-DOC RESEARCHER WINS THE MICROSOFT AWARD

Catia Trubiani, post-doc researcher in Computer Science at the Gran Sasso Science Institute (GSSI), the INFN international PhD school and centre for advanced studies, received the Microsoft Azure Research Award. Microsoft offers the availability of the Microsoft Azure Platform for 12 months to perform big data computation in the cloud. The estimated total market value of this offer is 40,000 USD. DESPACE (*DEtecting and Solving Performance Anti-patterns in Cloud Environments*) is the name of the awarded project: the goal is to develop a prototype of a performance analyser for the interoperability of online auctions with private owners of goods. "The system will be self-adaptive – Catia Trubiani explains – and, in particular, will detect the potential performance flaws and/or security issues for the used resources and take suitable refactoring actions while ensuring data confidentiality and synchronisation", said Trubiani.