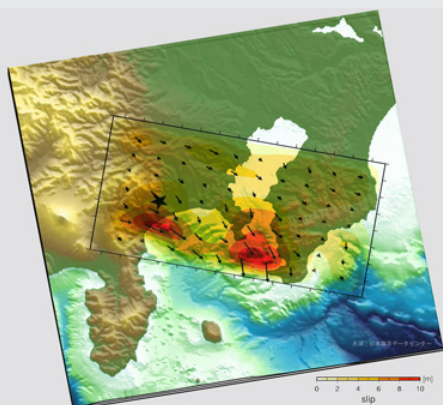


» TECHNOLOGY TRANSFER



WITH JAPAN TO STUDY VOLCANOES

A mutual declaration of interest, recently signed at the Italian Embassy in Tokyo between the Italian Institute for Nuclear Physics (INFN), the Italian Institute for Geophysics and Volcanology (INGV) and the Earthquake Research Institute (ERI) of the University of Tokyo, marks the formal step of the collaboration already in place between Italy and Japan and between INFN and INGV for the use of elementary particles - muons and neutrinos - for Earth and seismic event studies. With the aim of promoting research and technological innovation in this field, the collaboration project is part of the Executive Programme of the Bilateral Agreement for Scientific and Technological Cooperation between Italy and Japan and is of great interest to both countries that can reap mutual benefit from cooperation in areas in which both are at the forefront. The agreement also marks an alliance between Earth sciences and elementary particle physics for the study of phenomena, volcanoes and earthquakes, of interest to the entire population.

Among the new techniques developed, muon radiography is certainly the most promising: it allows magmatic ducts or other internal structures in the emerging part of volcanoes to be seen using muons, particles that anyway incessantly rain down on the Earth, generated by the impact of cosmic particles in the atmosphere. Their ability to penetrate through very thick layers of rock makes these particles a valuable investigation tool which, introduced by Japanese scientists, was later developed both in Italy and in Japan.

The declaration of interest between the Japanese and Italian research institutes will be followed by a collaboration agreement between the three institutions which envisages the exchange of researchers and students, the development of research of mutual interest and circulation of the results of academic knowledge and information. The project also lays the foundations for further joint research in the study of seismic phenomena and volcanic eruptions and extends the consolidated collaboration between Italian and Japanese scientists to an innovative research field. ■