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## Physics dissemination through measurements of in-door radon

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Many people associate the environmental radioactivity with the artificial radioactivity. The population knows few things about the natural radioactivity. From 2005 in the framework of both “Lauree Scientifiche” project (PLS), funded by Italian Education Minister, and a project sponsored by the National Institute of Nuclear Physics (INFN), scientific dissemination was promoted in the field of radioactivity. The projects have involved high school students, in particular in measurements of in-door radon. The collaborating students received introductory information explaining the radon concern and the survey procedures. At the same time, they received radon detectors with instructions and data sheets. Each student also received a questionnaire about the sampling site (address, building characteristics, room characteristics) and radon devices (device code, period and place of exposure, device position within the room, etc.).

The overall monitoring, spanned over a period of five years from 2005 to 2010, was carried out using passive nuclear track detection technique, through the diglycol carbonate (C<sub>12</sub>H<sub>18</sub>O<sub>7</sub>) CR-39. In total, till now, we have placed about 500 detectors in dwellings and schools in 57 locations so as to cover the whole investigated region.. Detectors were placed once for each site for 90 days.

The investigated area have shown medium-high indoor radon concentrations, higher than the Italian average of about 70 Bq/m<sup>3</sup>, with peaks of 500 Bq/m<sup>3</sup> or more in buildings near active faults. Fortunately, only a small fraction of the measurements, about 1.5% of total, was found greater than EU and Italian action limits for houses and workplaces.

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