

Radiation protection

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Apart the laser-based activity, members of the L3 group (A.P. Caricato, A. Luches and M. Martino) are involved in the activity of the Centro Di Ricerca, Consulenza e Servizio sulle Radiazioni Ionizzanti e Non-Ionizzanti, in collaboration with the Servizio di prevenzione e protezione dell'Università del Salento and the Istituto Superiore per la Sicurezza del Lavoro (ISPESL) of Rome. Besides the routine activity for radiation protection of the researches with ionizing radiation sources performed in the Department of Physics and in the Lecce section of the Istituto Nazionale di Fisica Nucleare (INFN), research activities were performed for the

- Survey and analysis of the intensity of the electric and magnetic fields at 50 Hz and of the electromagnetic field in the range 100 kHz - 3 GHz in the city and province of Gjirocastr, Albania. For the first time the intensity of the electric and magnetic field in the range of electrical power supply and power transmission lines (50 Hz) and in the range of radio-television broadcasting and telecommunications (100 kHz - 3 GHz) were measured in occupational sites and power plants of the city of Gjirocastr and its surroundings. The interest is mainly due to the absence of laws limiting field intensity and to the uncontrolled proliferation of emission sources for mobile telephones in Albania. Results of the survey indicate that limits suggested by scientific associations or imposed by European Commission directories and Italian national laws are generally not exceeded.
- Survey on natural radioactivity in schools of the province of Lecce. A survey on natural radioactivity in about 500 schools located in the Italian province of Lecce has been carried out. In particular average radon concentration and the average absorbed dose rate in air due to gamma radiation have been assessed by using nuclear trace and electret dosimeters, as well as TLD dosimeters. Trace dosimeters were placed in each school while electrets and TLD were placed in a selected sample of 56 schools for a 6-month period. In the 56 schools, kinder-

gartens and schools located in 53 towns, more than one hundred and fifty measurements of indoor radon concentrations were performed. In each school, radon passive dosimeters were placed in classrooms, in offices and laboratory with the aim to consider different kinds of working places; moreover, in order to assure the quality in data production as homogeneity and as reliability, in each place of measurement two electret dosimeters with the same configuration were placed. Charge on the electrets was measured directly on site before and after the positioning with a portable electret voltage reader. Results of the survey are now being analyzed.