# New Radon observations in Peloponnese, Greece as part of integrated monitoring system to study pre-earthquake processes

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We developed a radon measurement network at the region of SW Peloponnese, Greece as part of an innovative integrated study of pre-earthquakes phenomena at the high seismicity area of the Western Hellenic Arc. The network consists of three gamma ray sensors for continuous real-time monitoring of radon accumulation in the ground installed at Methoni, Kyparissia and Zakynthos. All gamma ray sensors have been placed in the ground at a depth of 1 m. Local meteorological parameters for atmospheric corrections are also continuously monitored. Radon measurements are performed indirectly by means of gamma ray spectrometry of its radioactive progenies 214Pb and 214Bi (emitted at 351 keV and 609 keV, respectively).

The first results reveal a number of precursor radon variation anomalies before several earthquakes (M>3.6) where the radon increases systematically before the larger events. Details of the radon measurements, statistics and overall analysis of observations will be discussed. We analyzed the radon time-series by statistical methodologies in order to indentify the anomalies patterns and characteristics. The influence of the background micrseismicity in the radon data was also studied. Details of the Radon measurements and integrated ground-space system, statistics and overall analysis of observations will be discussed.