Geophysical Research Abstracts,
Vol. 11, EGU2009-5137, 2009
EGU General Assembly 2009

Indoor radon periodicities and their physical constraints: a study in the Coimbra region (Central Portugal)

L.J.P.F. Neves (1), S. M. Barbosa (2), and A.J.S.C. Pereira (1)

(1) IMAR, Department of Earth Sciences, University of Coimbra, Portugal, (2) University of Porto, Portugal (susana.barbosa@fc.up.pt)

Indoor radon activity was measured during a period of 6 months, as well as several physical environmental variables, including temperature, pressure, humidity and rainfall; the location was a small room at an administrative building of the University of Coimbra, usually undisturbed by human activities and situated over a bedrock of low-uranium Triassic red sandstones. A low average activity of radon was observed (36 Bq.m-3), however showing a very well marked daily periodicity (10±5 Bq.m-3), with maximum values attained more frequently between 9 and 10 a.m. Daily variations are examined in terms of eventual tidal signatures and association to environmental parameters, and show the strongest correlation with outdoor temperature; no dependence on barometric pressure was found. Rainfall disturbs the normal daily radon cicles observed, by strongly reducing their amplitude, but has no effect on radon long-term variability.