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Forest versus pasture radon-222 flux in a granitic context: the Sapine drainage basin at Mont Lozère, France

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Radon-222 (^{222}Rn) is a well-known tracer of atmospheric, environmental and geological processes. In a recent reviews of radon-222 flux (RF) from ground surface at continental scale, or in recent observations of RF in association with earthquakes, the question of the influence of vegetation cover emerges repeatedly. In this study, a total of 58 RF flux (RF) measurement were performed from ground surface in September 2021 at the Sapine drainage in the Mont Lozère (French Central Massif). The micro-observations site was located at the south slope of the granitic context between a forest and pasture. No significant difference was observed between the RF in pasture (225±63 mBq m^{-2} s^{-1}) and forest (247±80 mBq m^{-2} s^{-1}). These results are compared with other recent RF results obtained in granitic areas in France, and to experimental evidence on radium-226 distribution obtained in soils and in vegetation. Other systematic effects on RF, such as soil humidity, soil pH or soil temperature, and their potential consequences on transport processes are discussed, as well as their impact on various problems in geosciences.