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Determination of the natural dose rate in samples of geological interest

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The natural dose rate is one of the physical magnitudes calculated during the process of age determination of geological sediments with the luminescence technique. The dose rate is calculated on the basis of the radioactive content presented in the sediments. Because of the low content of these radioactive isotopes a low background system should be used. In the present work the low background gamma spectrometric system used in the luminescence dating laboratory at CEADEN is described. The construction of a reference material with a similar composition to common sediments is also described. Finally, the radioactive content of quartz rich sediment from Pinar del Rio province and the respective natural dose rate are presented.

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