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用改进的单片再生剂量法测定多矿物细粒黄土的等效剂量

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摘要 应用单片再生剂量法对陕西关中的全新世黄土进行细颗粒蓝光释光、红外释光和红外之后的蓝光释光的等效剂量 D_e 测定,在实验中用一固定的实验剂量($D_t \approx (10\% \sim 20\%)D_e$)的释光信号来校正灵敏度的变化。在这3种释光信号中,红外之后的蓝光释光信号较为稳定,其 D_e 值较接近预测值。说明预先红外暴露去除了低能量的陷阱电子,剩下了稳定的高能量陷阱电子。

关键词 [单片再生剂量法](#) [细黄土颗粒](#) [释光](#) [等效剂量](#) [灵敏度](#)

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Equivalent Dose Estimation of Polymineral Fine Grains Using Improved Single-aliquot Regenerative-dose Protocol

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Abstract A new single aliquot regenerative dose protocol is used to estimate the equivalent dose (D_e) in polymineral fine grains extracted from Holocene loess in Guanzhong, Shaanxi, in which three signals, blue stimulated, post IR blue stimulated and IR stimulated luminescence, are measured. In this approach, each natural or regenerated dose OSL is corrected for changes in sensitivity using the OSL response to a constant test dose (10% ~ 20% of D_e). Among these three luminescence signals, post IR blue stimulated luminescence provides reliable estimates of D_e . It is concluded that prior IR exposure may dispel the trapped electrons with lower energy, and post IR blue simulated luminescence is mainly generated by the trapped electrons with higher energy.

Key words [single-aliquot regenerative-dose protocol](#) [fine loess grains](#) [luminescence](#) [equivalent dose](#) [sensitivity](#)

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