

The origin of quartz in deep sea sediments revealed by ESR signals

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The origin of loess is one of the most important issues in paleoenvironmental studies since it is directly related with the intensity and the direction of the monsoon. In the present study, we examined deep sea sediments by observing impurity centers in addition to the $E1'$ center (an electron at an oxygen vacancy). The increase of Al center per unit gamma ray dose in deep sea sediments was consistent with that in Chinese loess while Japanese tephra showed much larger increase. No Ti-Li center was observed in the former two samples while it was clearly observed in tephra. The present results indicate that the deep sea sediments have originated in China.

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