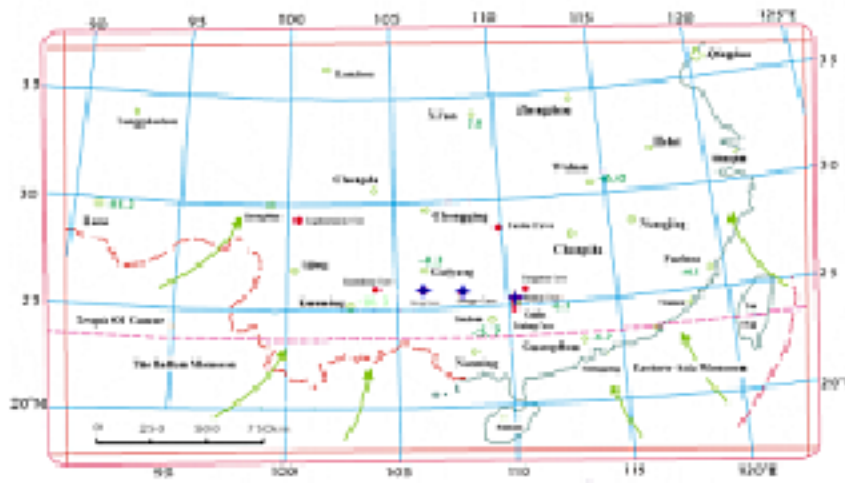


The Records of Carbon and Oxygen Isotopes and Paleoclimate Reconstruction from a Stalagmite of Shuinan Cave During 140 ~ 250ka B.P. in Guilin, China

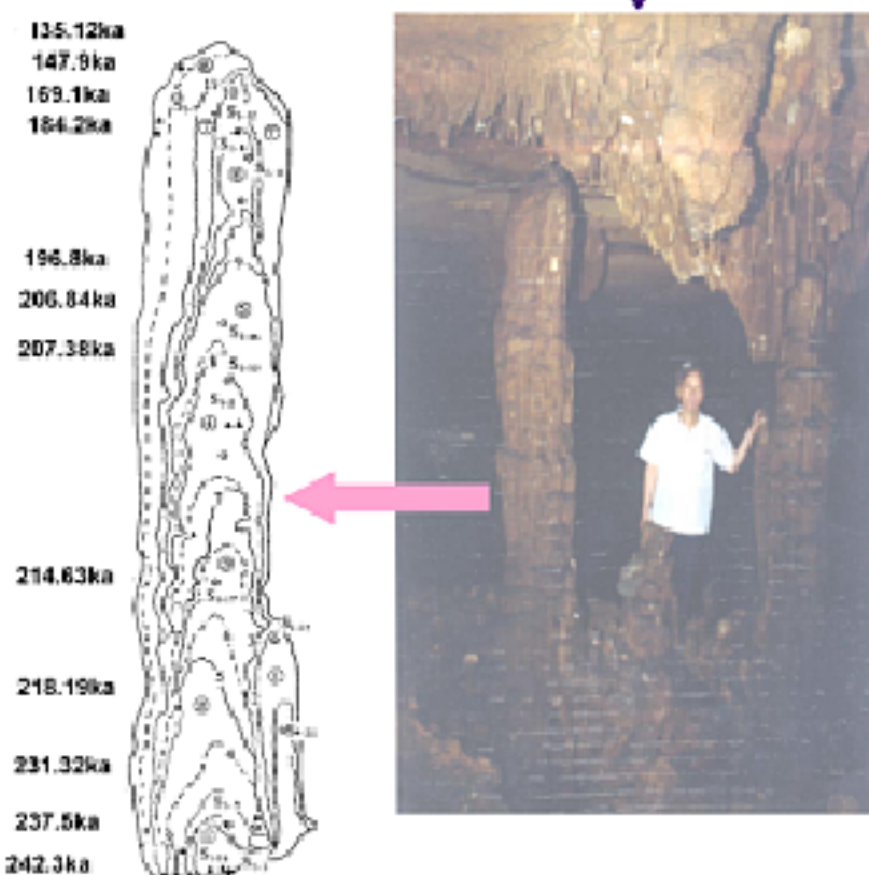


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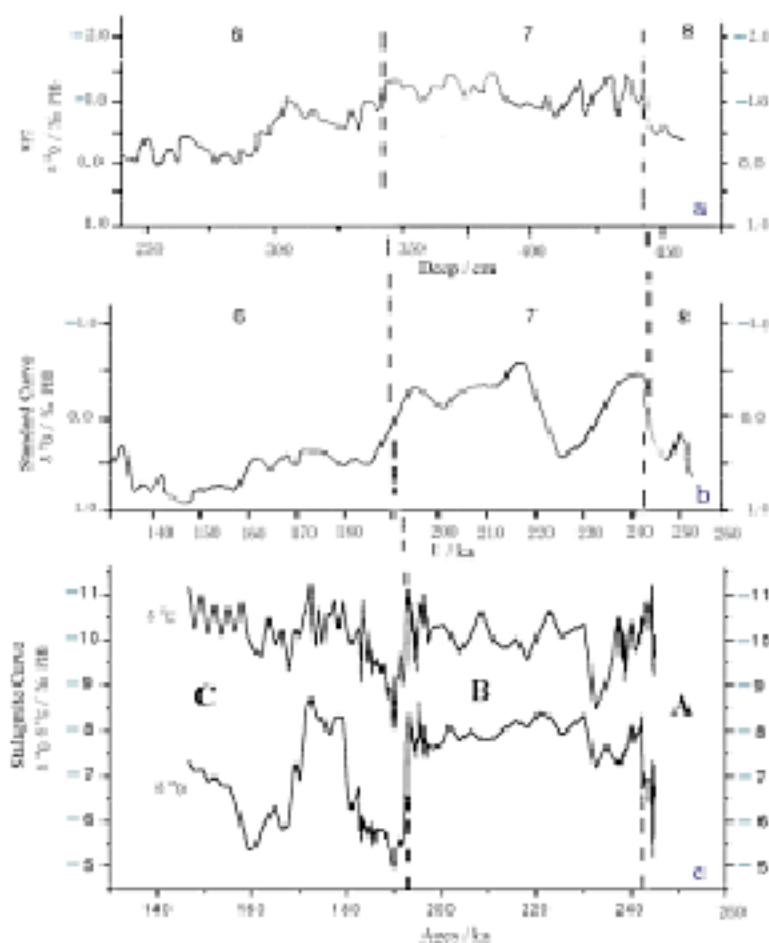
Location



The Stalagmite from Shuinan Cave



Records of Oxygen and Carbon Isotopes from this stalagmite



Comparison of oxygen isotope curves between a stalag-mite from Shiunan cave of Guilin and core Wp7, standardized SPECMAP curve (Xiang Rong et al, 2000; Imbrie et al, 1984)

- a δ¹⁸O curve of core WP7 from the west equatorial Pacific
- B standardized SPECMAP δ¹⁸O curve
- c Carbon and oxygen isotope curves from the stalagmite of

Shiunan Cave is situated at the Northwestern of Guilin city (N 25°20', E 110°16'), about 8 km from the city district. The temperature of the inner hall is from 19.5°C to 19.9°C and is basically consistent with 19.9 ~ 20°C of the annual average air temperature in Guilin area.

The time sequence of paleoclimatic changes from 245.20ka B.P. to 147.90ka B.P. has been established by the dating ages of the high precision TIMS-U series and the analysis of the oxygen isotopes from the stalagmite of Shuinan Cave in Guilin. The paper also confirms that the boundary ages between stage C and stage B and those between stage B and stage A are 192.6 ± 3.9 ka B.P., 242.5 ± 6.4 ka B.P. respectively, which is gotten by using TIMS-U series dating age at 86.5 cm and 271 cm on the stalagmite section and depositional cycles of the stalagmite section and the sudden change characteristics.

Paleoclimate Reconstruction

The study result indicated that the paleo-climate (or paleo-monsoon) change reflected by the cold and warm events of the stalagmite record during 245.20 ka B.P. and 147.9 ka B.P. can be divided into three stages of climate change:

- (1) the period from 245.20 ka B.P. to 242.5 ka B.P. corresponds to the last stage of the deep marine core oxygen (SPECMAP curve) stage 8;
- (2) the (penultimate) interglacial period from 242.5 ka B.P. to 192.6 ka B.P. corresponds to the deep marine core oxygen isotope (SPECMAP curve) stage 7;
- (3) the penultimate glacial period from 192.6 ka B.P to 147.9 ka B.P. corresponds to the deep-sea core oxygen isotope (SPECMAP curve) stage 6.

Karst Landform near Qixing Cave

