Supplement of

The first luminescence dating of Tibetan glacier basal sediment

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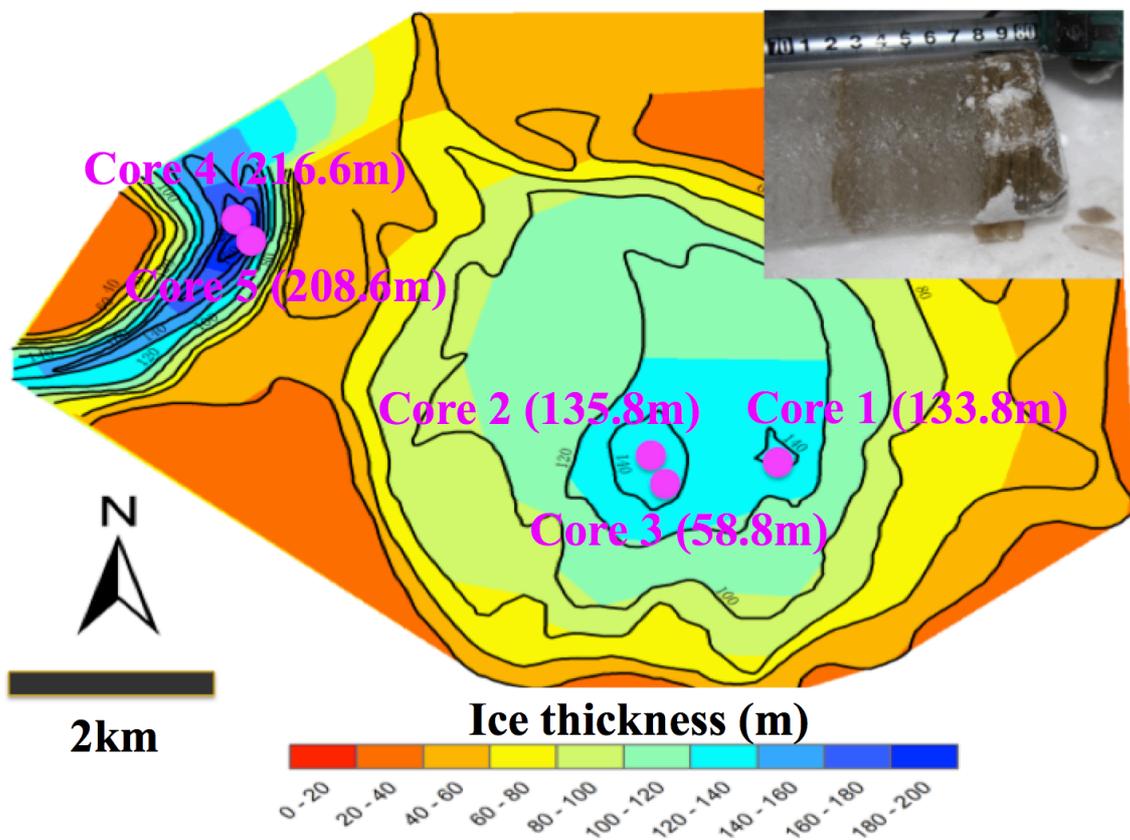5   *Correspondence to*: Shugui Hou (shugui@nju.edu.cn)

Figure S1: Map showing part of the Chongce ice cap where our ice cores were recovered. Inset shows the close bottom section of Core 2.
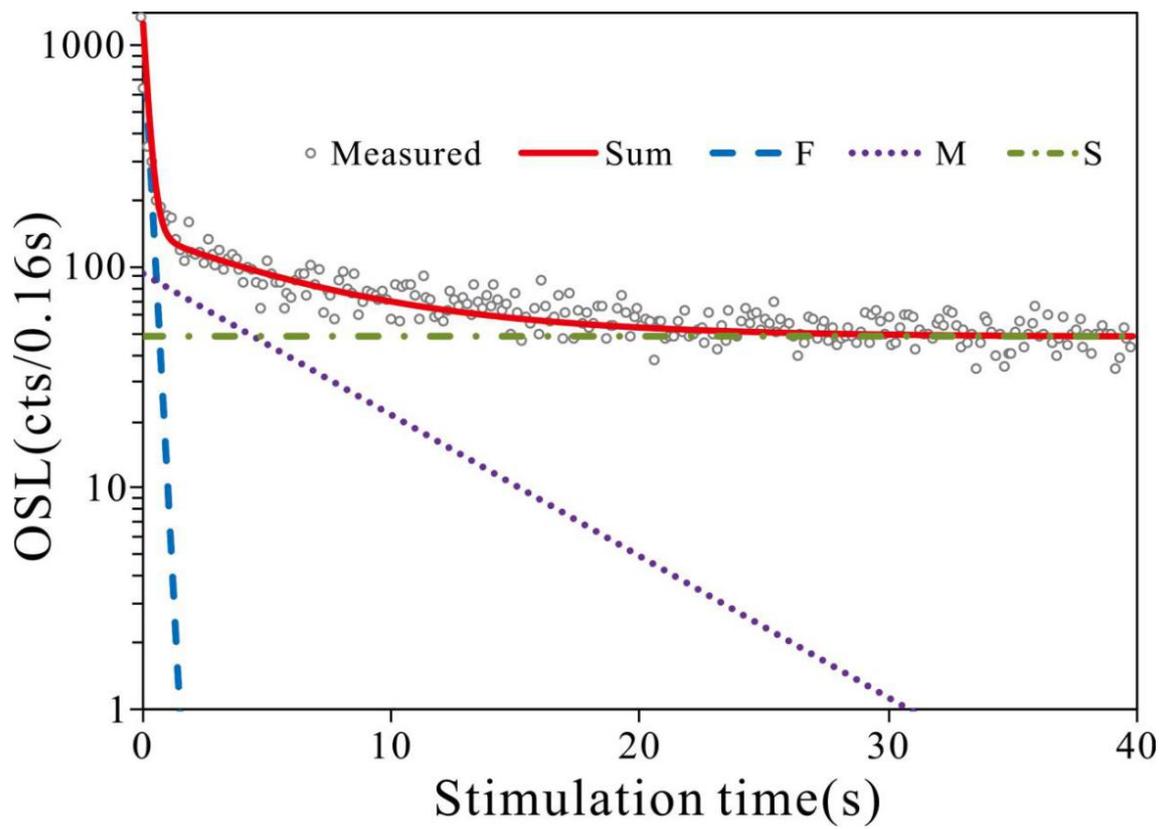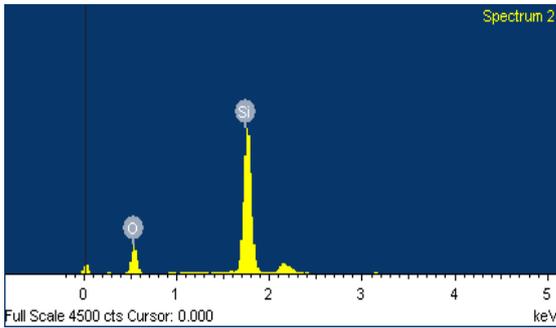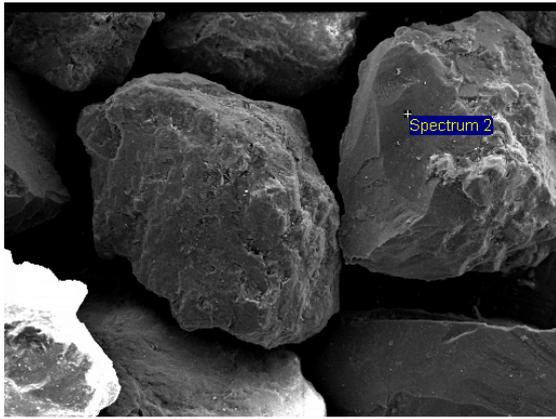
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Figure S2: Natural OSL decay curves and their relative components for the fine grain quartz aliquots. Sum, F, M and S represent natural OSL signal, fast, medium and slow components, respectively. Fitting curve is matched with "Luminescence Analyst" program.

Spectrum processing:

Peaks possibly omitted: 0.260, 2.144, 9.690 keV

Processing option: Oxygen by stoichiometry (Normalized)

Number of iterations = 2

Standard:

Si   SiO2   1-Jun-1999 12:00 AM

Element	Weight %	Atomic %	Formula
Si K	46.74	33.33	SiO2
O	53.26	66.67	
Totals	100.00		

Figure S3: Example photograph of Scanning Electron Microscope coupled with an energy dispersive X-ray
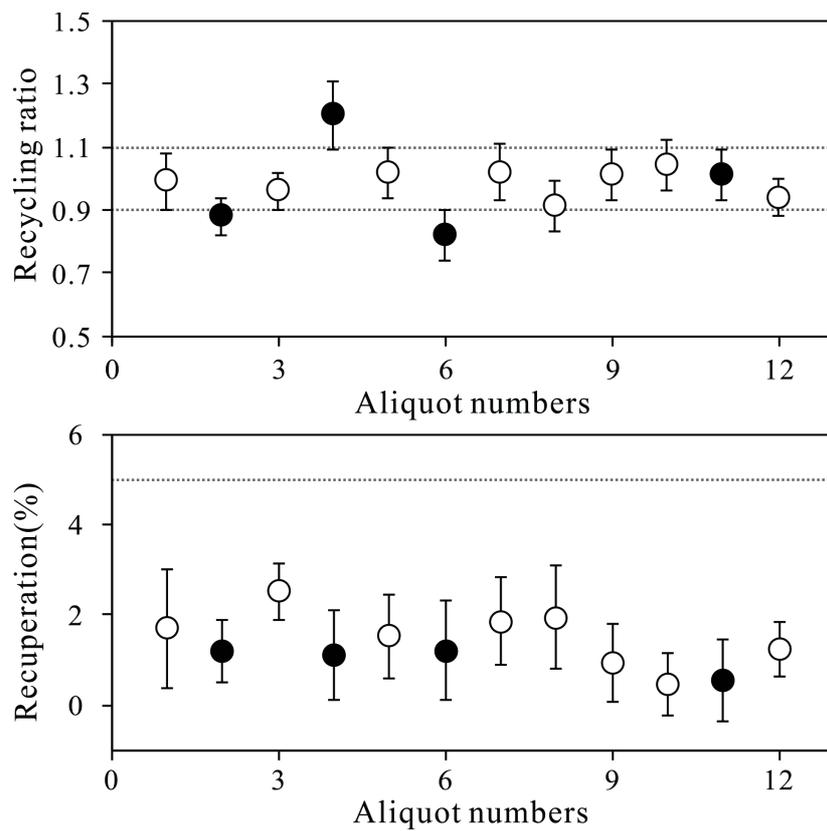
5   microanalyzer.

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Figure S4: Recycling ratio and recuperation for fine grain quartz of the sample. Dose recuperation is expressed as the zero-dose corrected OSL in percent. The filled symbol represents the aliquots that were excluded in the final age calculation.

Table S1. Summary of dosimetric determined by gamma spectrometry analysis.

Sample	^{238}U(Bq kg^{-1})	^{226}Ra(Bq kg^{-1})	^{210}Pb(Bq kg^{-1})	^{232}Th(Bq kg^{-1})	^{40}K(Bq kg^{-1})
CCICE	53 ± 11	45.5 ± 1.8	64 ± 13	45.5 ± 1.7	1096 ± 32