

## ***Interactive comment on “A new Himalayan ice core CH<sub>4</sub> record: possible hints on the preindustrial latitudinal gradient” by S. Hou et al.***

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Received and published: 15 September 2013

Figure 1. CH<sub>4</sub> profiles from three Himalayan ice cores. The average 700 ppbv preindustrial CH<sub>4</sub> level depicted by polar ice cores is indicated with a horizontal light blue line. The solid circles in the ER Core2002 panel stand for the filtered 15 samples that are used for the discussion.

Figure 2. Distribution of CH<sub>4</sub> mixing ratios against gas content of the same samples in ER ice cores, with an exponential fit. Samples with CH<sub>4</sub> mixing ratios over 1800 ppbv are excluded. The solid circles stand for the filtered 15 samples that are used for the discussion, with the red solid circles for the industrial records and the black solid circles for the preindustrial records.

C2016

Figure 3. The background CH<sub>4</sub> profiles of Core2002 with comparison to the GRIP (Chappellaz et al., 1997) and Law Dome ice core (MacFarling-Meure et al., 2006) records.

Figure 4. CH<sub>4</sub> latitudinal gradients for the Present-Day and the Preindustrial periods simulated with the LMDz-INCA climate/chemistry coupled model (left vertical axis), with comparison to the ER (this study) and the GRIP (Chappellaz et al., 1997) records (right vertical axis).

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Interactive comment on Clim. Past Discuss., 9, 2471, 2013.

C2017

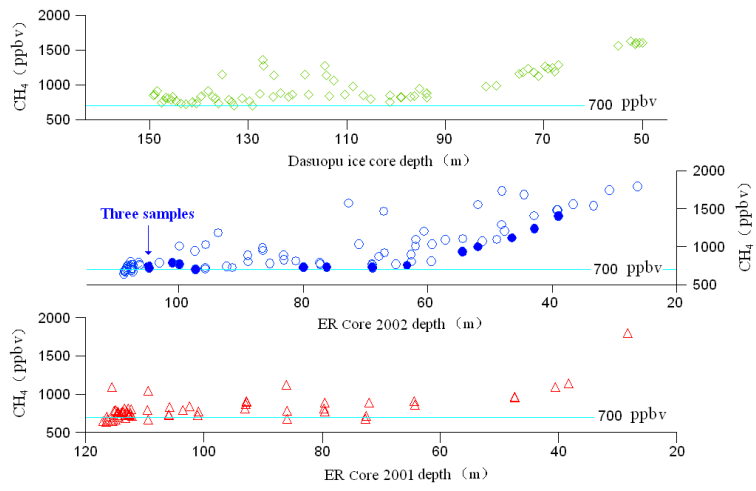


Fig. 1.

C2018

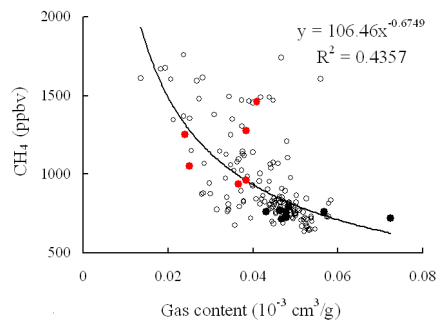


Fig. 2.

C2019

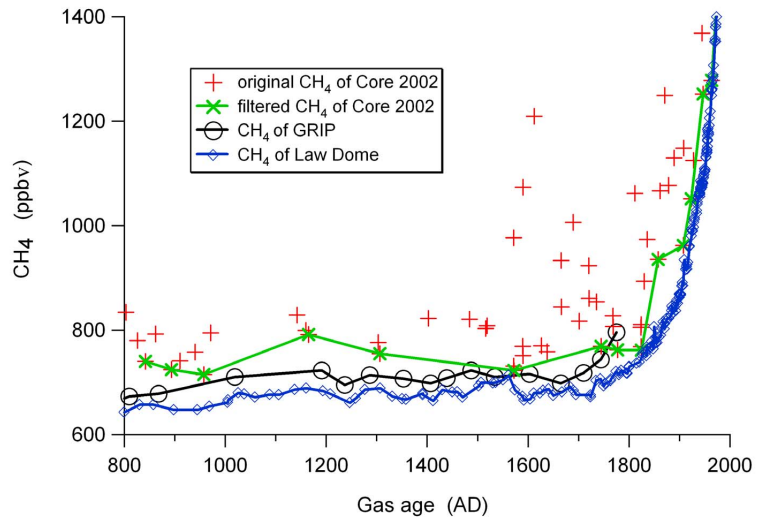


Fig. 3.

C2020

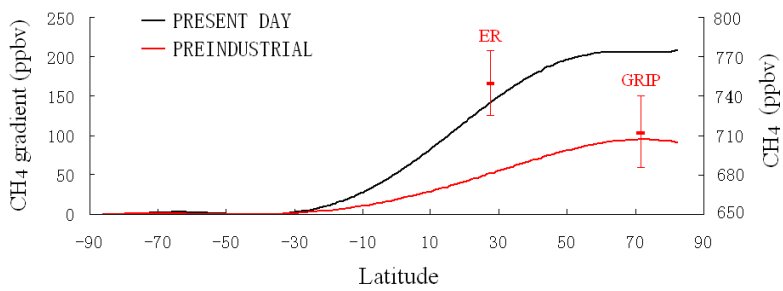


Fig. 4.

C2021