

The characteristic and environmental significance of water stable isotope at Dome A, East Antarctica

CHUNLEI AN¹, TIANMING MA^{1,2}, YUANSHEG LI¹, SU JIANG¹, HONGMEI MA¹, GUITAO SHI¹

¹ Polar Research Institute of China, 451 Jinqiao Road, Pudong, Shanghai 200136, China. Email: anchunlei@pric.org.cn

² School of Ocean and Earth Science, Tongji University, 1239 Siping Road, Yangpu, Shanghai 200092, China.

Water stable isotope records from ice cores are widely used in paleoclimate reconstruction. Here we present $\delta^{18}\text{O}$ and δD records from an ice core at Dome A, the highest region on the Antarctica ice sheet. This records cover a period from 1997 to 1904 (AD, as all the dates given here). The temperature anomalies during this period is calculated. The results show that there is a rapid raising in temperature at this region at the beginning of 1980, and 1980-1997 is likely the warmest period during the 20th century. Comparisons of our records and other reconstructions show that, there is a good coherence in changing trends of temperature between Dome A and Antarctica continent at the second half of the twentieth century.