

## **Annually-resolved temperature reconstructions of the past 2000 years from Dome-Fuji, East Antarctica**

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We present annually-resolved temperature and SST reconstructions of the past 2000 years based on water (oxygen and deuterium) isotope measurement on a shallow ice core drilled in 2010 at Dome Fuji station, East Antarctica. These time series records will be an essential contribution to the PAGES 2k project from sparse data area in Antarctica.

Dome Fuji station is located on a summit of Dronning Maud Land at an altitude of 3810 m a.s.l. (above sea level) ( $77^{\circ}19'01''$  S,  $39^{\circ}42'12''$  E) in East Antarctica. The 10 m depth mean snow temperature at Dome Fuji is  $-57.3^{\circ}\text{C}^1$ . The inland area around Dome Fuji has been recognized to be especially unique: The snow and ice there contain much stratospheric information. The direct evidence for this comes from tritium contents originated from the nuclear bomb tests in the 1960s; the tritium fallout at the Dome Fuji site is outstandingly high among 16 snow pit samples widely collected over Antarctica<sup>2</sup>).

To date the concerned Dome Fuji ice core, we applied volcanic signature matching to transfer the West Antarctic Ice Sheet (WAIS) Divide ice core chronology constructed by annual layer counting as used in the study by Sigl et al. (2014)<sup>3</sup>).

In our presentation, we confine ourselves to discuss the oscillation periodicity that we observed in the oxygen isotope record in our data: The periods of approximately 10, 20, and 200 years were found. We will present the time series analyses for this in detail, and will discuss the origin of this periodicity.

### References:

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