



Assessment of Ice Core $\delta^{13}\text{CO}_2$ Measurements from three European Laboratories

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Measurements of the stable carbon isotopic signature of atmospheric carbon dioxide ($\delta^{13}\text{CO}_2$) in the air occlusions of polar ice cores provide critical information on interactions between climate, oceanic circulation and vegetation. We present technical studies regarding the quality of emerging records from three European laboratories. Intercalibration using gas and ice standards establishes accuracy and reproducibility. Reproduction of published records for the Late Holocene and glacial termination I tie the measurements into the existing literature. Also, we compare the $\delta^{13}\text{CO}_2$ signal measured in both bubbly and clathrated ice covering Antarctic Isotope Maximum (AIM) 8, ca. 39,000 ka BP., from EPICA Dome C and Berkner Island, in order to establish the reliability of $\delta^{13}\text{CO}_2$ from deep clathrated ice for future work on older climate periods.