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Supplement of

Non-destructive estimates of soil carbonic anhydrase activity and associated soil water oxygen isotope composition

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Supplementary material

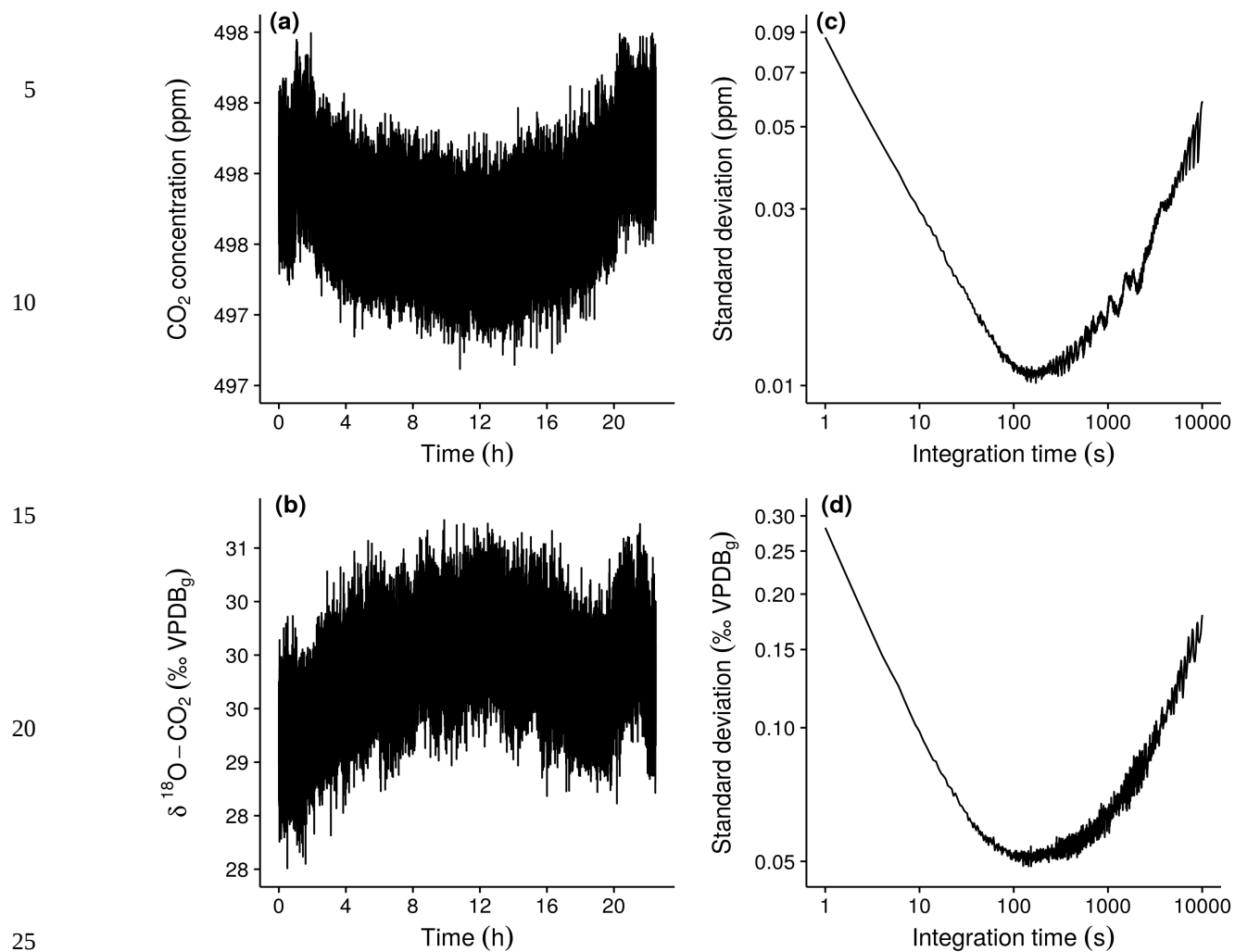


Figure S1: IRIS measurement stability for a cylinder of compressed air containing about 500 ppm of CO₂. (a) 1 Hz time-series of total CO₂ concentration, (b) 1 Hz time-series of $\delta^{18}\text{O}$ of CO₂, (c) Allan plot of total CO₂ concentration and (d) Allan plot of $\delta^{18}\text{O}$ of CO₂.

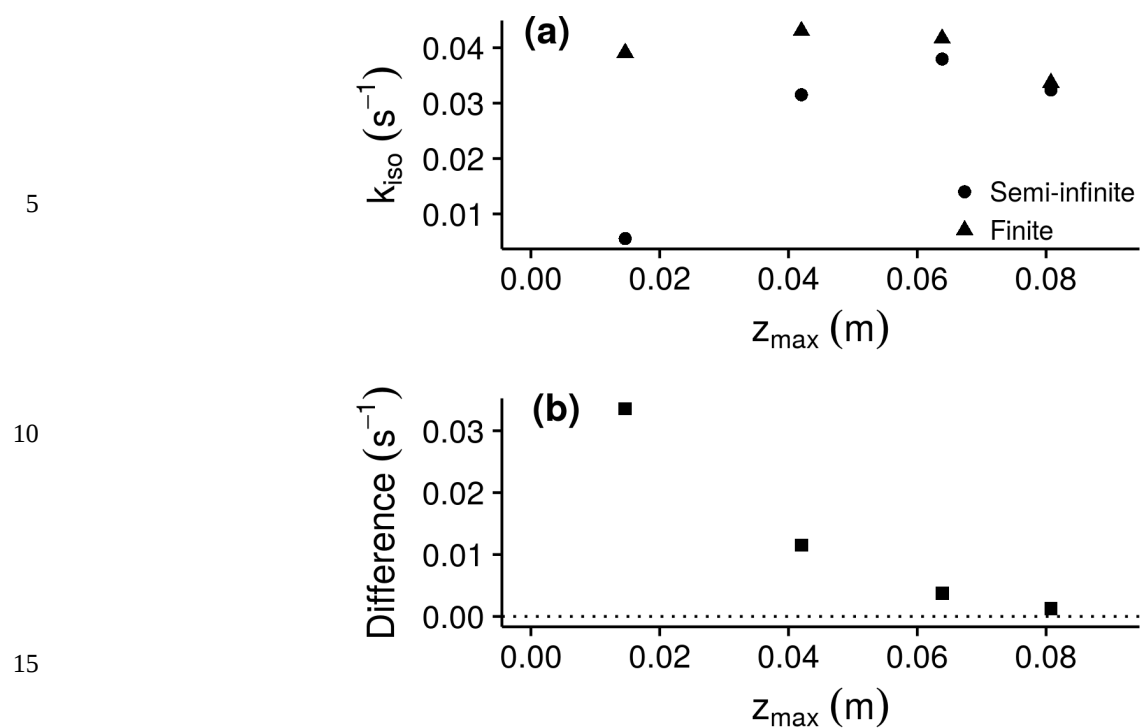


Figure S2: The influence of extending Eq. 1 to account for boundary conditions found at the bottom of incubation vessels (Eq. 7) was tested in four incubations containing 70, 100, 300 and 400 g of soil ($\theta_w = 0.11$ to 0.12). Solutions for v_{inv} and \tilde{v}_{inv} and the corresponding semi-infinite and finite estimates of k_{iso} , calculated as described in the manuscript (a) k_{iso} estimates using the semi-infinite and the finite-depth solutions for different soil depths and (b) their difference.