

Supplementary figures: Simulating higher-order fabric structure in a coupled, anisotropic ice-flow model: application to Dome C

Article

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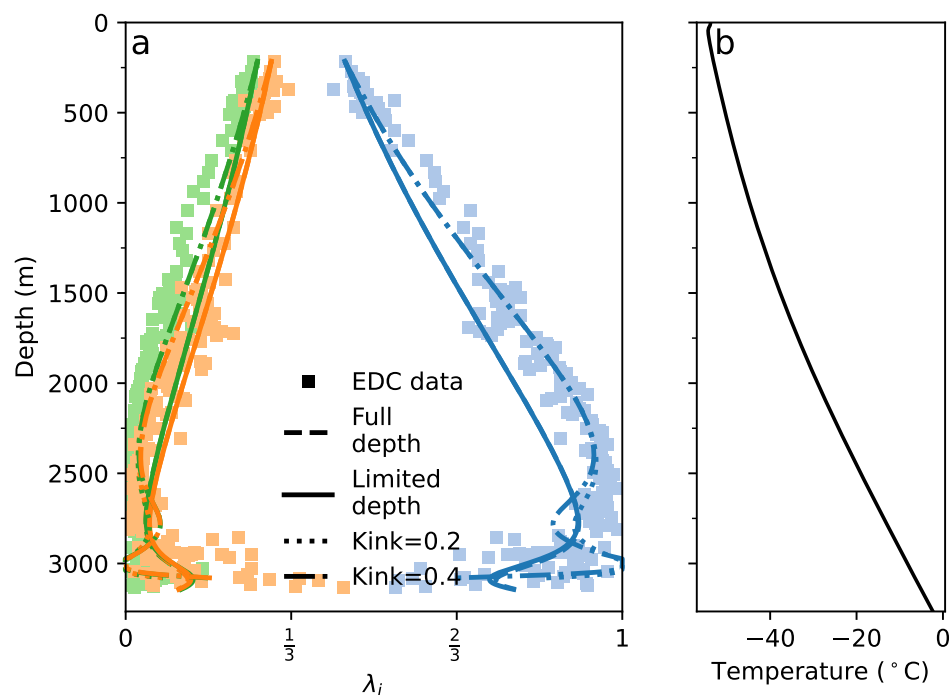
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Fig. S1. Ratefactor calibration. As in Fig. 2 of the main text, but including alternative calibrations. a. Modeled eigenvalues, using a zero-dimensional model, resulting from different rate factors. Colors indicate eigenvalue number (blue for λ_3 , orange for λ_2 , and green for λ_1). Squares showed measured fabric (Durand and others, 2009). Lines show modeled fabric, using parameters tuned using a Nye model at only shallow depths, a Nye model at all depths, a Dansgaard-Johnsen model with kink height 0.2 times the ice thickness, and a Dansgaard-Johnsen model with kink height 0.4 times the ice thickness, indicated by the solid, dashed, dotted, and dash-dot lines, respectively. b. Temperature in the EDC borehole, from Buizert and others (2021).

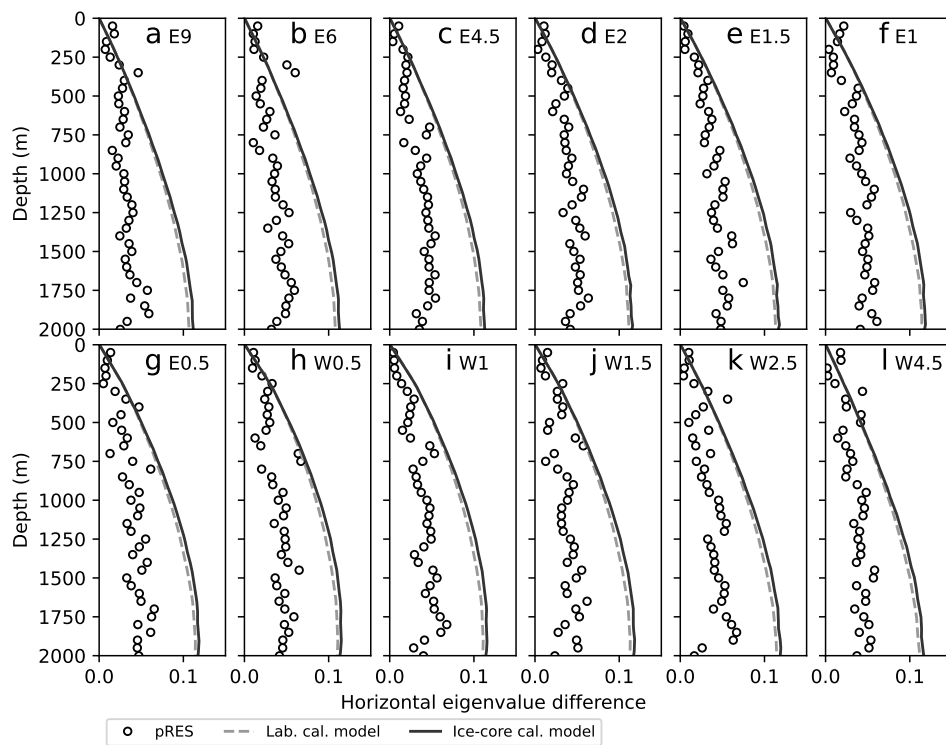


Fig. S2. Horizontal eigenvalue difference of modeled and pRES-inferred fabric (Ershadi and others, 2022) at locations not shown in main text. pRES is shown with black circles, ice-core calibrated model with dark gray lines, and laboratory calibrated model with dashed, light gray lines. a–l. are E9, E6, E4.5, E2, E1.5, E1, E0.5, W0.5, W1, W1.5, W2.5, and W4.5 from Ershadi and others (2022), where the letter represents the direction (East or West) and the number the distance in kilometers from the EDC core site. Corresponds with Figure 7 of the main text.

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