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Geothermal heat flux is the dominant source of uncertainty in englacial-temperature-based dating of ice rise formation

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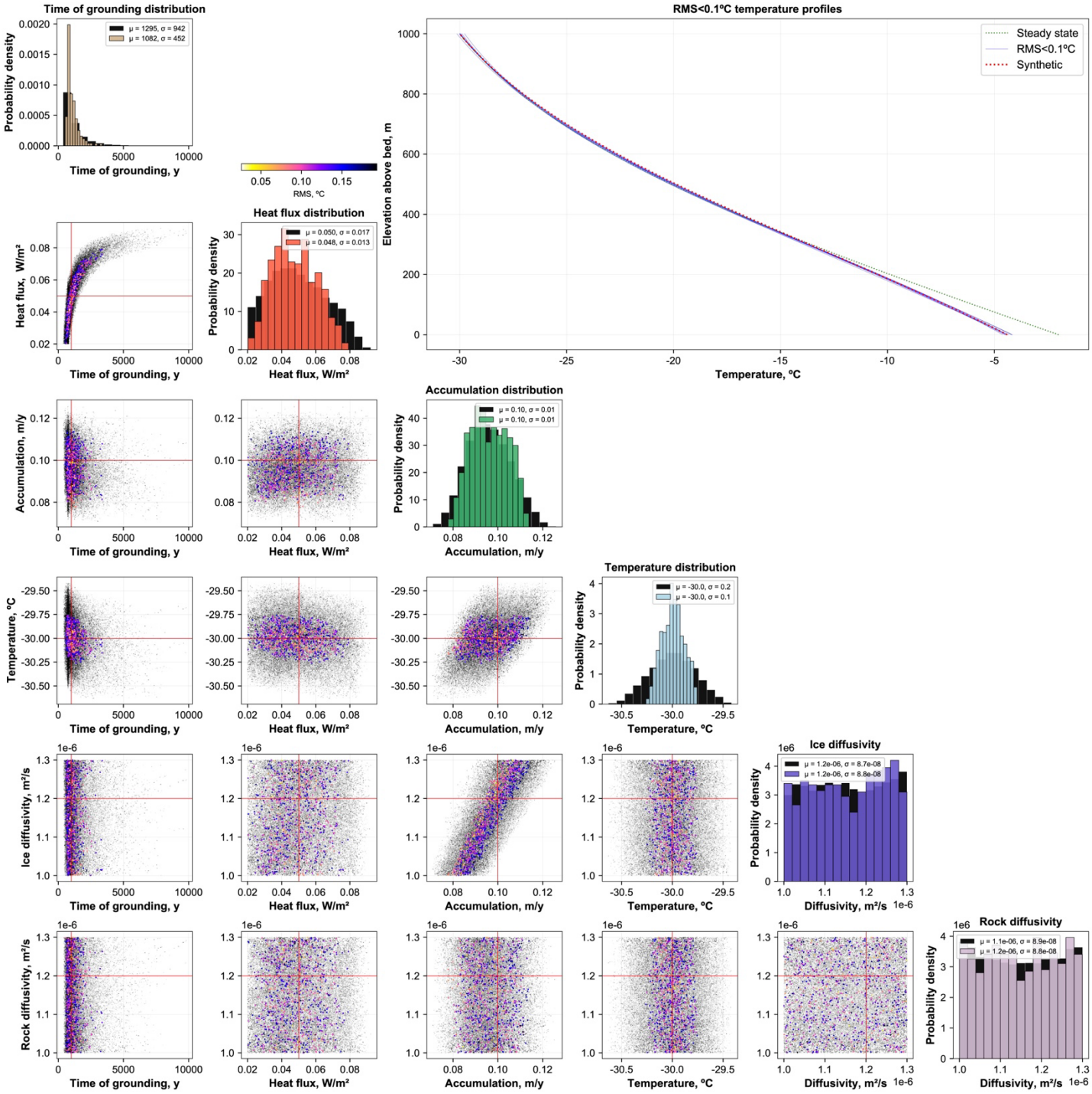

Figure S1. Inversion of the synthetic temperature profile data based on 256000 parameter combinations, including the thermal diffusivity of ice and bedrock. Synthetic temperature-depth profile (red dotted line in upper right panel) was produced using the prescribed set of parameter values, including thermal diffusivity of ice and rock (two lower rows). The scatter plots illustrate the random walk in the parameter space: in grey are the tested combinations of parameter values that yielded a less than 0.3°C RMS misfit with synthetic temperature profile, while in color are the combination of parameter values that yield best-fit with synthetic profile (i.e., <0.1°C RMS). Panels in the lower two rows shows that closely matching temperature profiles are reproduced using a wide range of thermal diffusivity values, but their effect on inferred grounding time is negligible.