

Supporting Information for “Temperature-induced nonlinear elastic behavior in Berea sandstone explained by a modified sheared contacts model”

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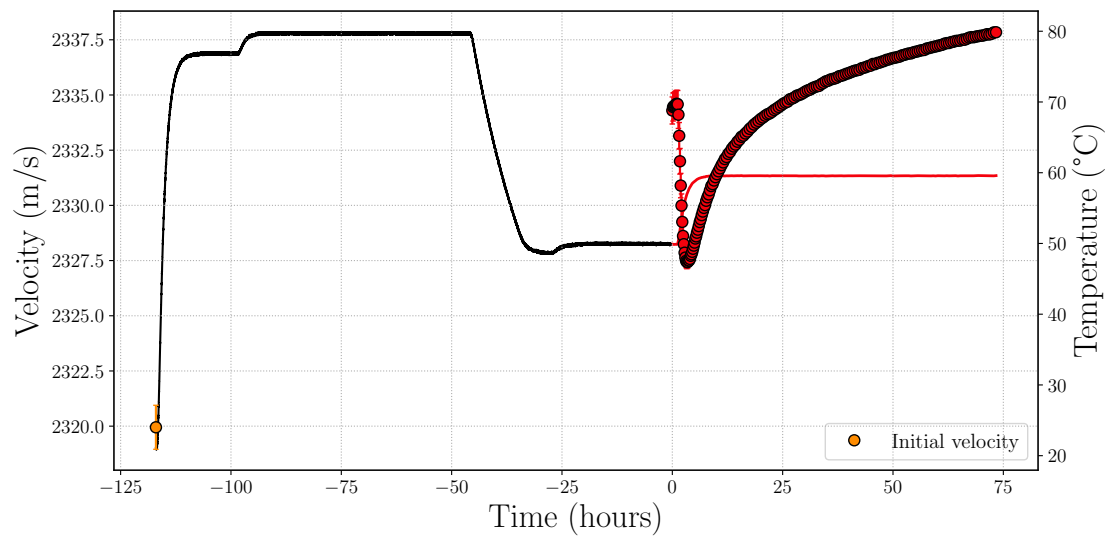


Figure S1. Temperature profile and initial ultrasonic velocity of the sample prior to the experiments performed in Section 3.2. Time is measured in hours from the beginning of the first temperature change experiment, which is shown in red for reference. A vacuum was continuously maintained in the pressure vessel during this time.

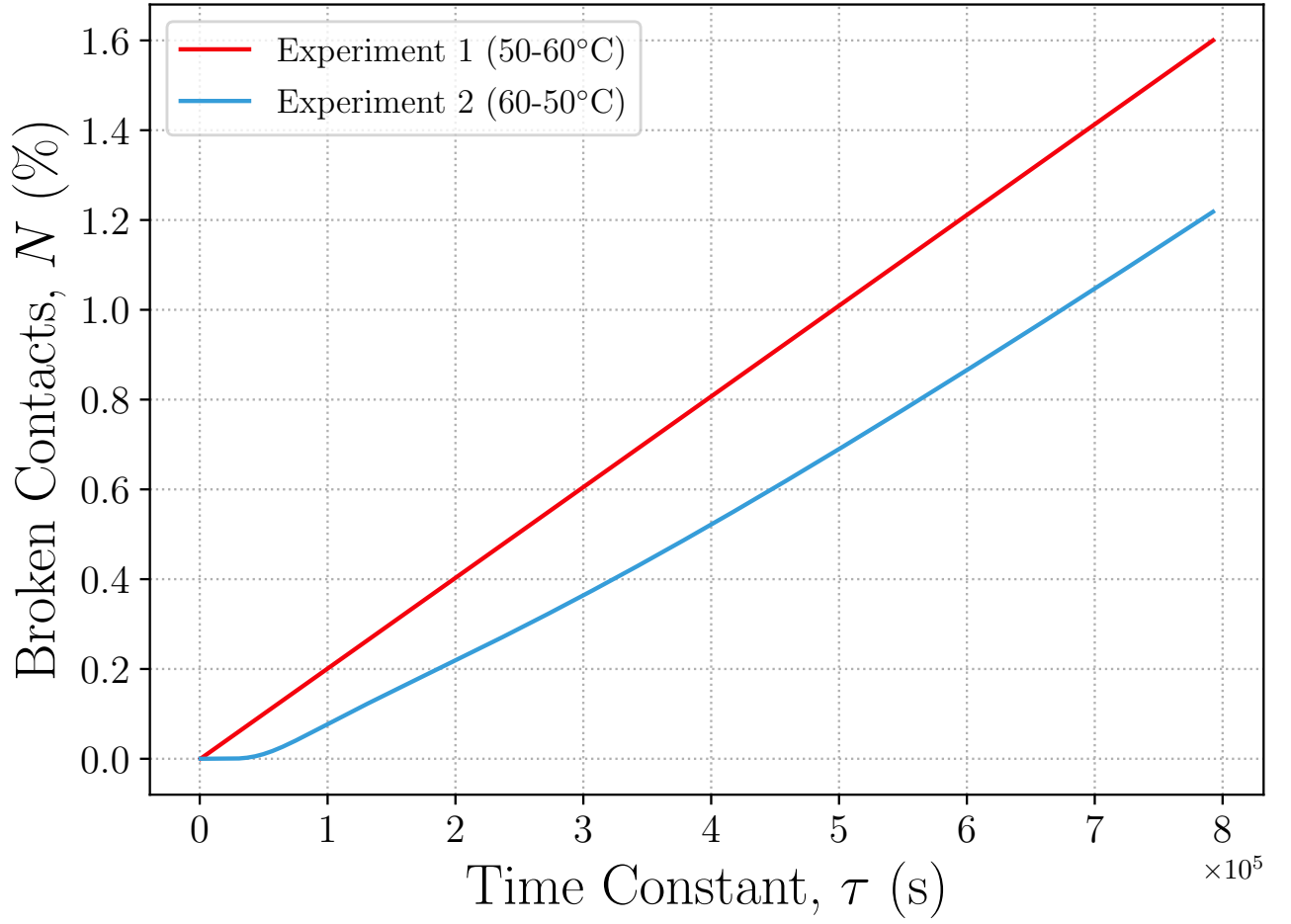


Figure S2. Initial profiles of broken contacts as a function of time constant τ for the two models in Figure 5. A linear profile was chosen for the first experiment (red), ranging from 0 broken contacts for τ_{min} to $c = 1.6\%$ broken contacts for τ_{max} . For Experiment 2, we used the final profile of the model from Experiment 1 as the initial profile for τ .