

Supporting Information for "Eruption Forecasting of Strokkur Geyser, Iceland Using Permutation Entropy"

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1. Figures S1 to S7

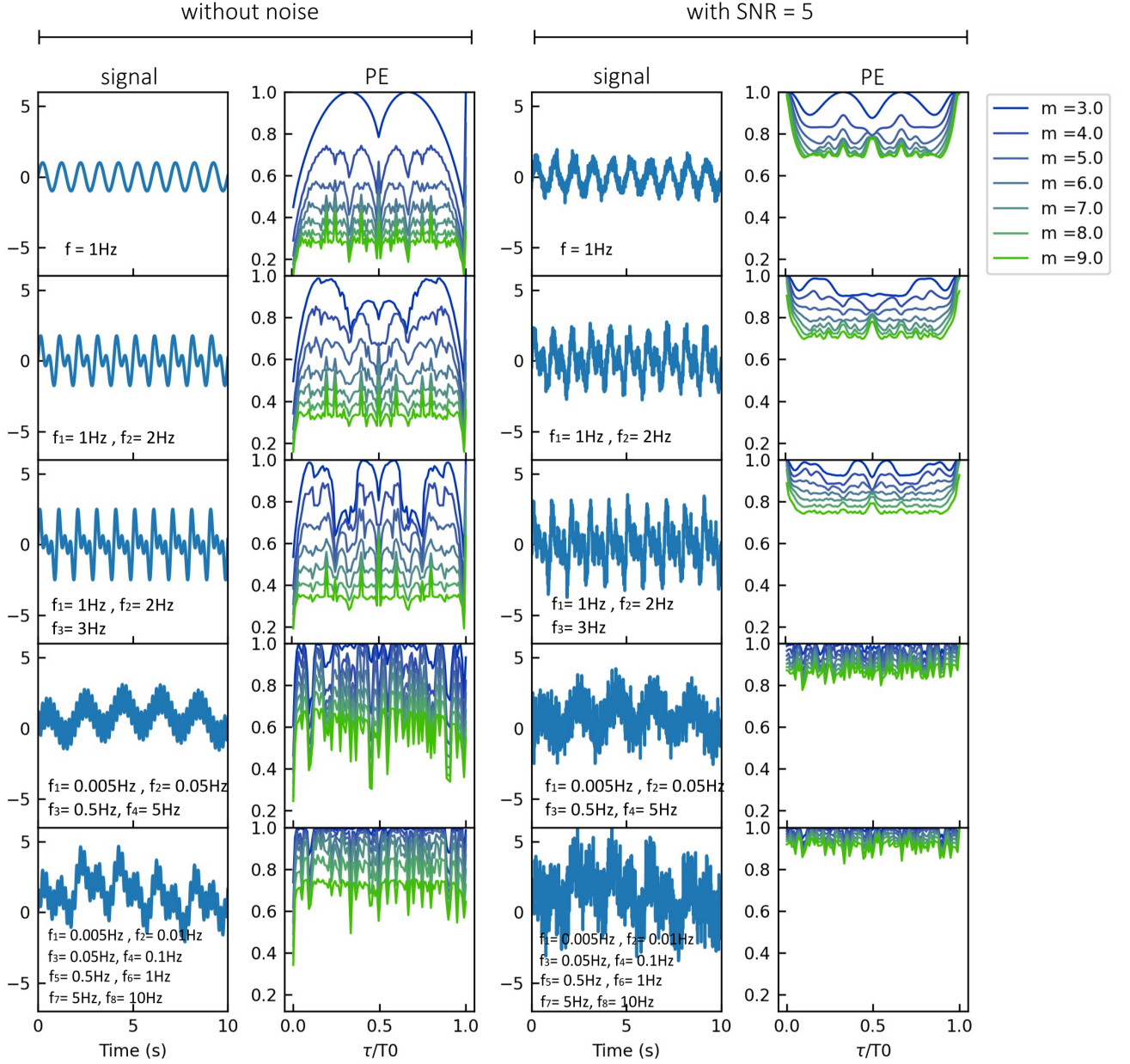


Figure S1. Synthetic test for the dependence of PE on the delay time using five different types of signals, with and without noise, and an embedding dimension ranging from 3 to 9. The frequencies used to create the signals are listed in the figure, the delay time ranges from $1/T_0$ to T_0 , where T_0 is the fundamental period of the signal.

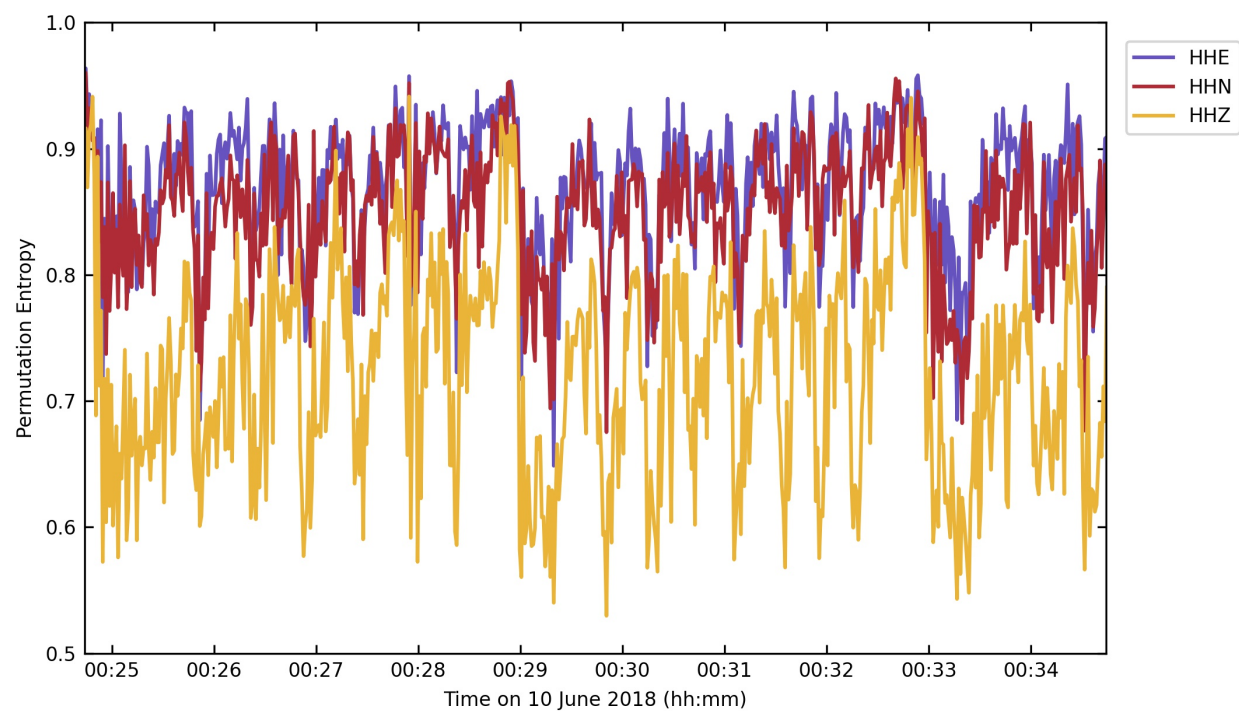


Figure S2. PE calculated for the horizontal and the vertical components at station S1, using embedding dimension 5 and a delay time of 0.005 s.

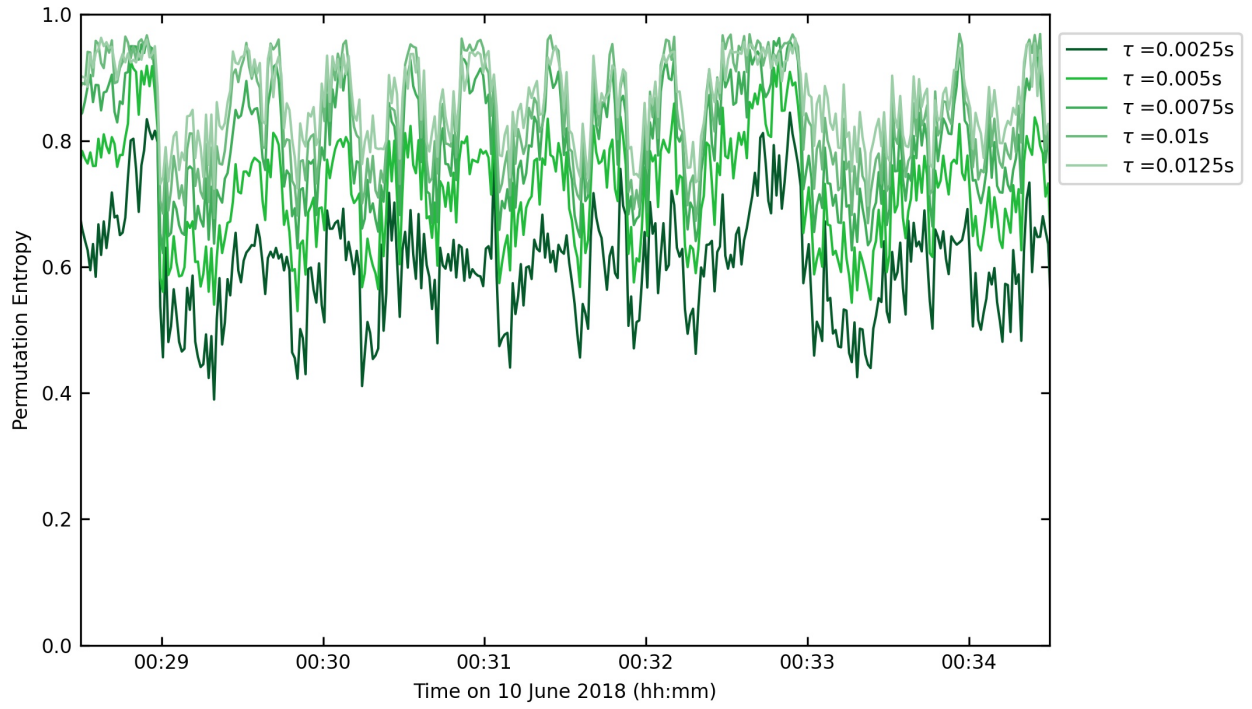


Figure S3. PE calculated for seismogram recorded at station S1 for the vertical component using an embedding dimension of 5 and delay times between 0.0025 s to 0.0125 s.

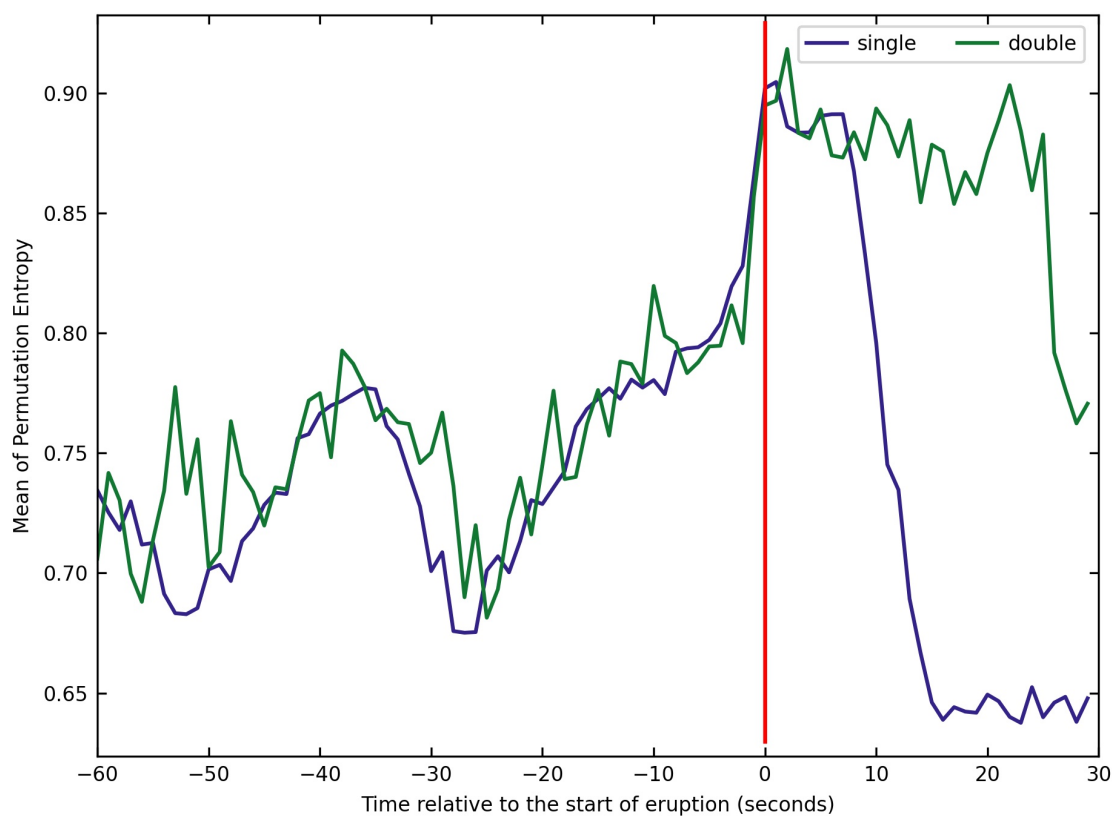


Figure S4. Mean of stacked PE aligned at the start of the eruption (red vertical line) related to the 53 single eruptions (blue) and 8 double eruptions (green).

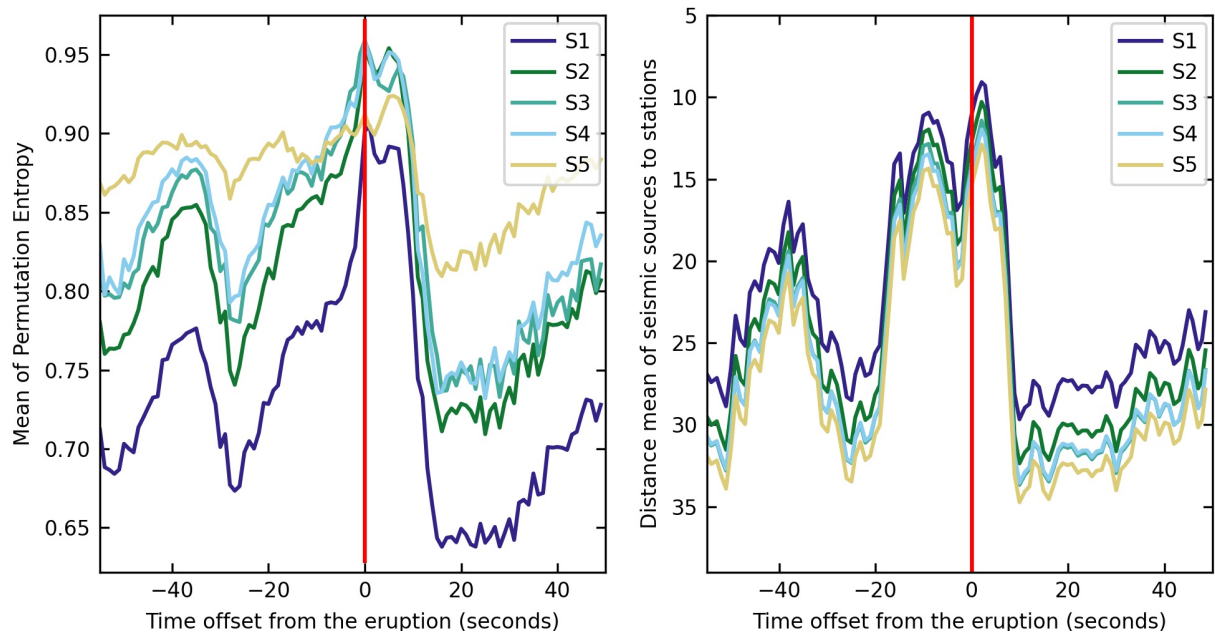


Figure S5. The mean of stacked PE (left) and source-station distance (right) aligned at the start of the 53 single eruptions calculated for five different stations: S1 (dark blue), S2 (green), S3 (light green), S4 (light blue), and S5 (yellow).

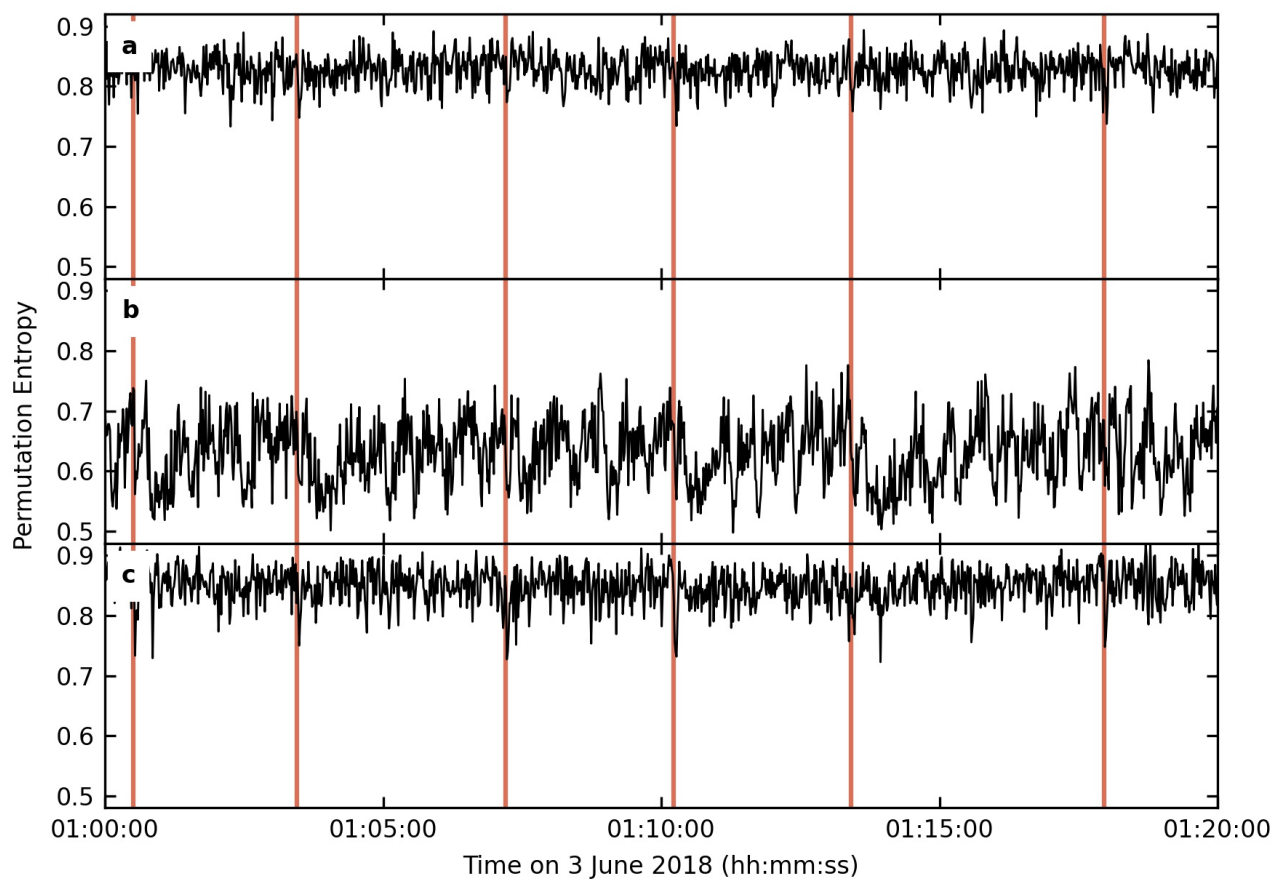


Figure S6. 20 minutes PE variation of station (a) G2, (b) G3, and (c) G4. The vertical lines represent the times of eruptions.

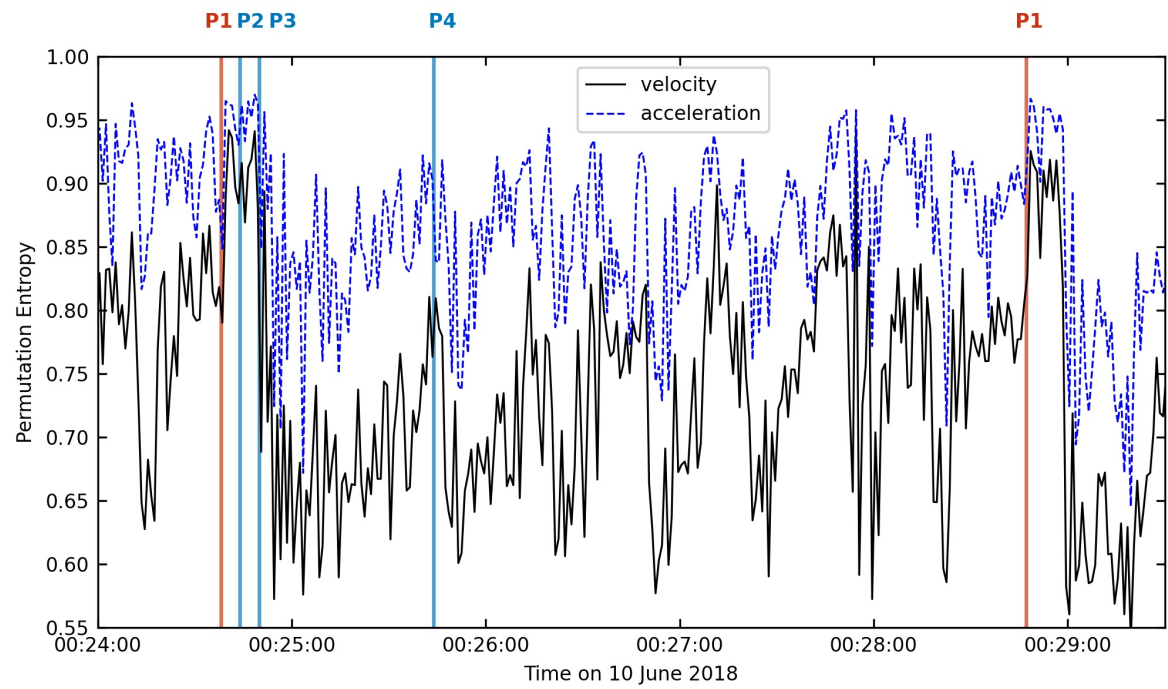


Figure S7. Comparison between PE estimated from seismic velocity (black line) and seismic acceleration (dashed blue) at S1. The vertical red lines represent the onset of eruptions (P1), blue lines represent the end of eruption (P2), steam entering the bubble trap (P3), and bubble collapses at depth (P4).