

Empirical Assessment and modeling of Arias Intensity, Cumulative Absolute Velocity, and Significant Duration from Small-to-Moderate Earthquakes in the Uttarakhand Himalaya

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Electronic Supplement

This electronic supplement contains additional figures referred in the main manuscript.

Figure captions

Figure S1 depicts detailed information regarding comparison of site-wise intra-event residuals obtained for the reference and final models for (a) Arias Intensity (Ia), (b) Cumulative absolute velocity (CAV), (c) Significant duration (D_{5-95}). Gray histograms represent the residuals for the reference model and unfilled black histograms represent the residuals for the final model i.e. after site correction. The number represents the station elevation (in km) from mean sea level.

Figure S2 represents the histograms of median intra-event residuals at each site for (a) Arias Intensity (Ia), (b) Cumulative absolute velocity (CAV), (c) Significant duration (D_{5-95}). Gray histograms represent the residuals computed using the reference model and unfilled black histograms represent residuals from the final model i.e. after site correction.

Figure S3 demonstrates the ground motion duration w.r.t magnitude of earthquakes. Each curve represents the dependency of total duration of waveform for different magnitude ranges for a fixed distance. The distance range varies between 10km and 300km with a bin size of 10km. The maximum magnitude range of 5.7 is marked with red dashed line.

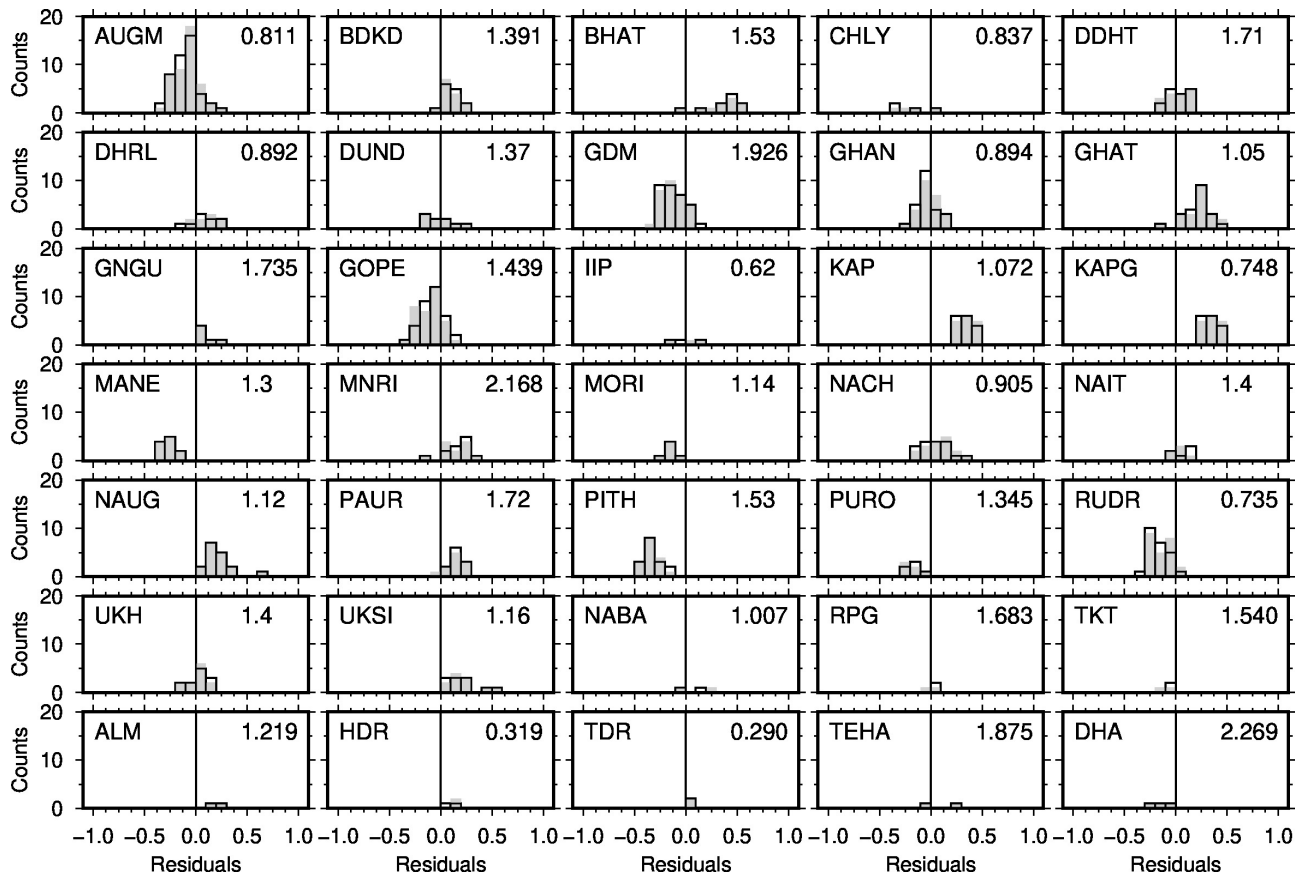


Figure S1a: Comparison of site-wise intra-event residuals obtained for the reference and final models for (a) Arias Intensity (Ia), (b) Cumulative absolute velocity (CAV), (c) Significant duration (D_{5-95}). Gray histograms represent the residuals for the reference model and unfilled black histograms represent the residuals for the final model i.e. after site correction. The number represents the station elevation (in km) from mean sea level.

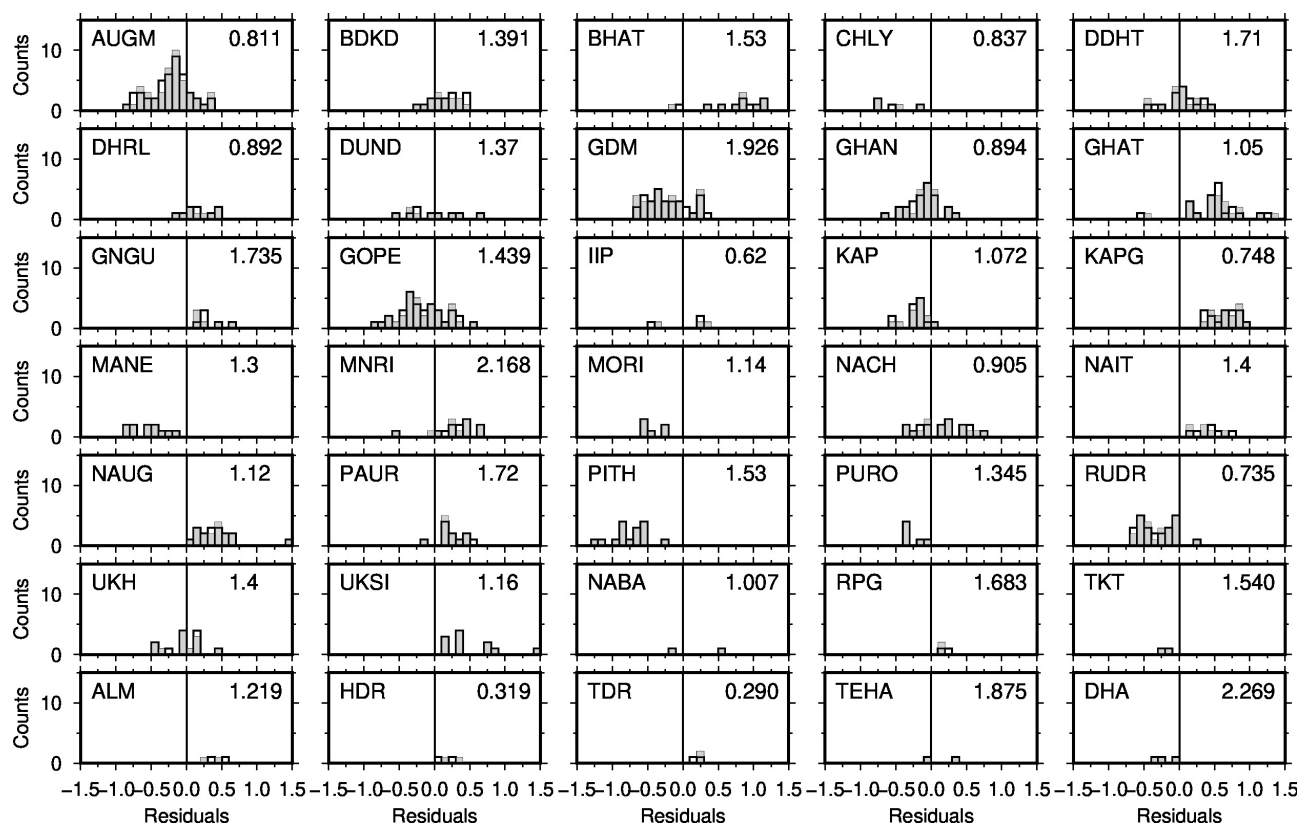


Figure S1b: Same as Figure S1a but for Cumulative absolute velocity (CAV).

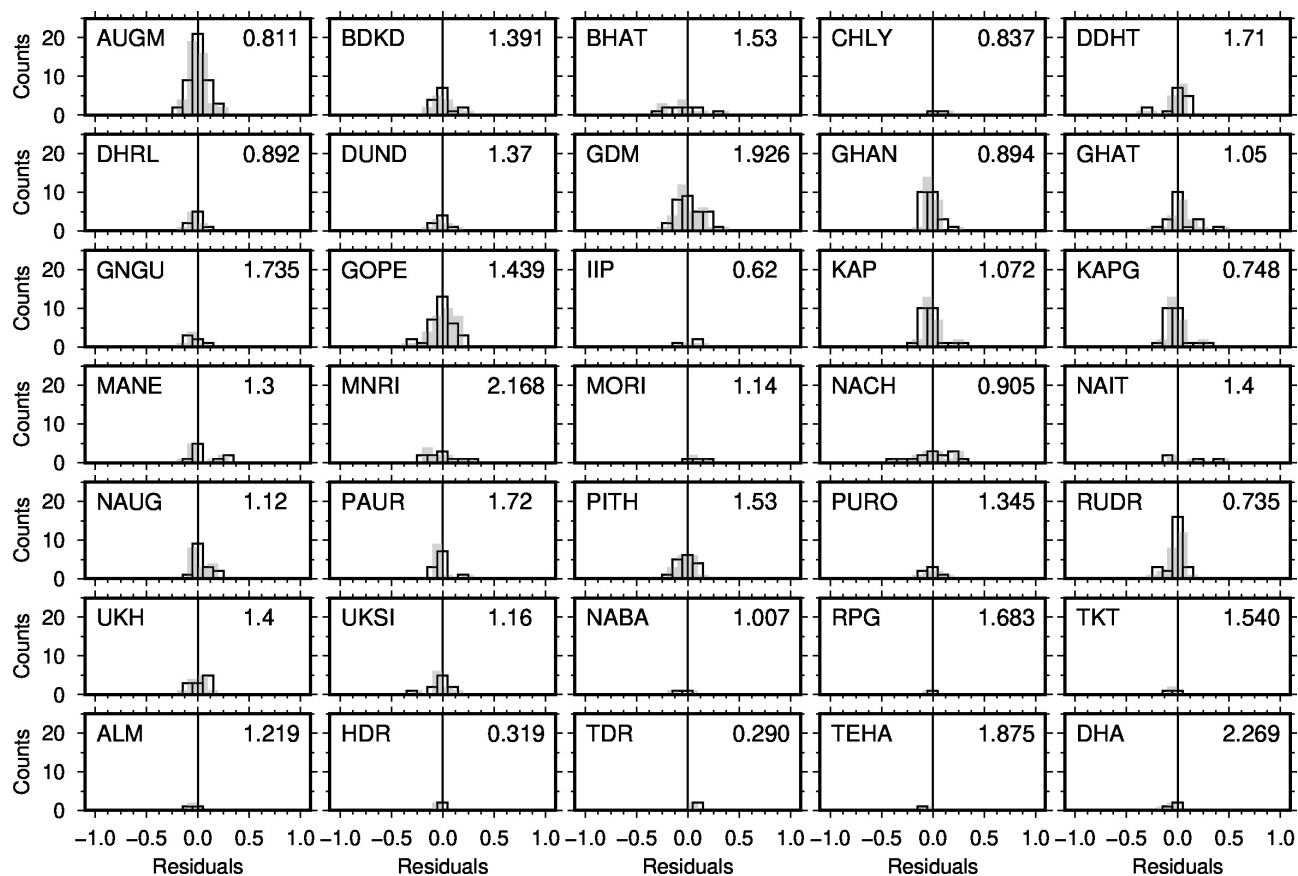


Figure S1c: Same as Figure S1a but for Significant duration (D_{5-95}).

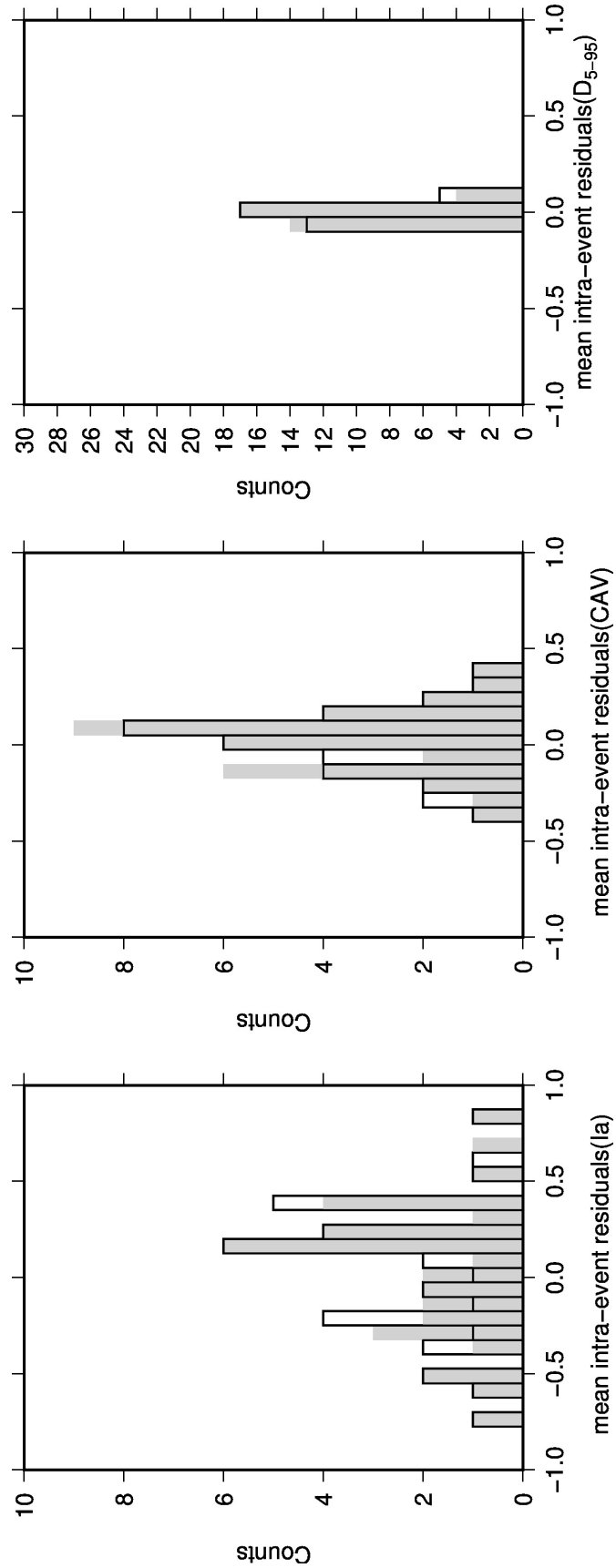


Figure S2: Histograms of median intra-event residuals at each site for (a) Arias Intensity (Ia), (b) Cumulative absolute velocity (CAV), (c) Significant duration (D_{5-95}). Gray histograms represent the residuals computed using the reference model and unfilled black histograms represent residuals from the final model.

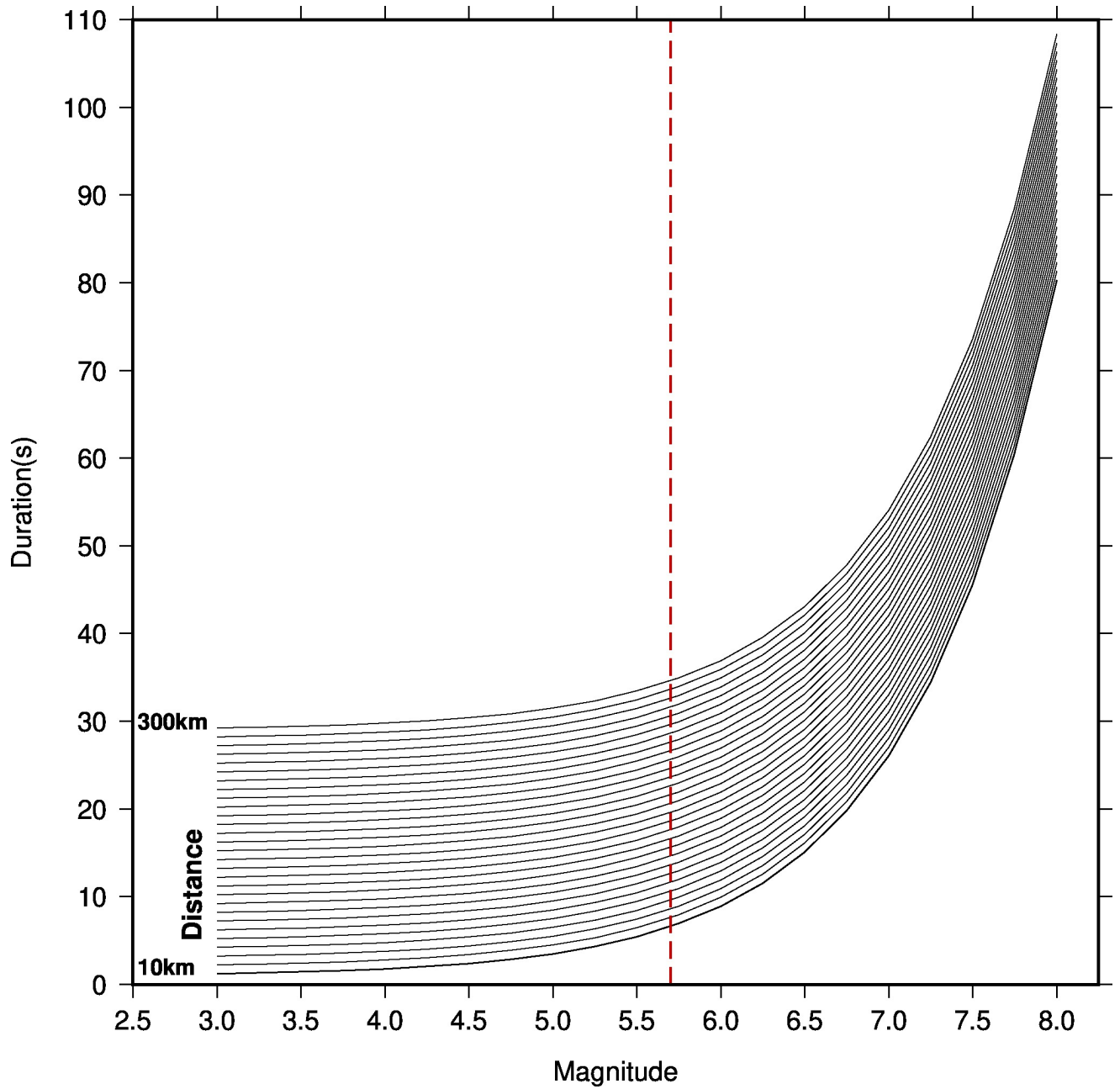


Figure S3: The total ground motion duration w.r.t magnitude of earthquakes is depicted. Each curve represent dependency of total ground motion duration of waveform for different magnitude ranges for a fixed distance. The distance range varies between 10km and 300km with a bin size of 10km. The maximum magnitude range of 5.7 in our dataset is marked with red dashed line.