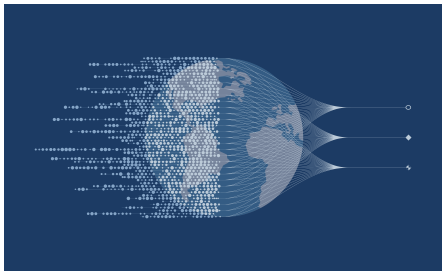

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# of seismic waves in the Charlevoix seismic zone, southeastern Canada

We investigate seismic attenuation characteristics of the Charlevoix seismic zone that is located ~100 km downstream from Quebec City and is the most seismically active region of eastern Canada. We determine Coda Q using 583 earthquakes (2.0 ≤ M ≤ 5.4) recorded at seven stations of the Canadian National Seismic Network from 1992 to 2022. We find that the highest Q0 (Q at 1 Hz) values are at station A11 (e.g., Q0 of 109), that is the farthest station from the 1663, M~7 earthquake (D=40 km). The lowest Q0 values that we find are at station A16 (e.g., Q0 of 72) that is the second closest station to the 1663 earthquake (D=16 km) after station A61 (D=10 km). Also, we find the lowest overall average Q0 value of 72 at station A16. Based on global studies, Q0 is lower in the vicinity of large earthquakes. Therefore, the low Q0 values at station A16 may suggest that the 1663 earthquake is located slightly southeast of the catalog epicenter, considering high uncertainty associated with historic events. An average for all the data results in a Q relationship of QC = 81f^1.06 (2 Hz ≤ f ≤ 16 Hz) for the entire region.

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