Effect of temperature to stress-induced charges in gabbro

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Preseismic ionospheric disturbance have been found repeatedly since the 2011 off the Pacific coast of Tohoku Earthquake (Heki, 2011, 2017). In order to understand the mechanism of this phenomenon, we investigate stress-induced charges from silicate rocks at more than room temperatures. As a result for gabbro with the temperature from 293K to 393K, the stress-induced current increased as an exponential function of temperature. This result shows that stressed rocks at seismic zone (ca.620K) would produce more stress-induced charges before earthquakes.

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