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Ionospheric Induction of Earthquakes: Fitting the Data

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This discussion assumes that there are ionospheric anomalies in total electron count (TEC) as precursors to major earthquakes. Very careful work by Thomas et al. (2017) and others remove TEC anomalies when correlated with natural events such as geomagnetic or solar activity. Without these data, correlation between ionospheric disturbances and large earthquakes ($M \geq 7.0$) occurs infrequently (~20% of events) and is within the standard error resulting from the small sample size. There are two possibilities: (1) either the mechanism of volatile (including radon) release that occurs in some regions precursory to major seismic events is unrelated to ionospheric disturbances; or (2) the occurrence of these volatiles is related first to geomagnetic and solar activity. The first hypothesis is easily falsified. In addition to careful statistical analysis by Thomas et al. and others, the mechanism for travel through the lower atmosphere of matter arising on the ground as a stable electric signal is not physically plausible. The second hypothesis awaits falsification, as the correlation fits the data. If natural events such as geomagnetic and solar activity are a trigger for large earthquakes, a plausible mechanism ought to be explored. In considering the