## On the tsunami and electromagnetic pulses appeared abound 10min. after the 2011 Tohoku earthquake

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Tsunami and electromagnetic pulses have appeared about 10 min. after the 2011 Tohoku-Oki earthquake( Heki, GRL, 2011; Utada et al. EPS Lett., 2011; Tsunagawa et al. EPS Lett., 2011). The disturbance to the ionosphere is thought to have been influenced by the atmospheric gravity wave caused by the tsunami. But this model could not explain the variation of geomagnetism, observed at Esahi site. In order to explain geomagnetic variation, we present a model that positively charged mists flied up with the atmospheric gravity wave along with the atmospheric electric field as the tsunami pulse was generated.

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