According to our previous experiments, when a terminal of an air-dried igneous rock block is uniaxially loaded, there appears the electromotive force that makes electric currents flow from the stressed volume to the unstressed volume. Because quartz-free gabbro also generates the force, we have expected that positive holes are generated in the stressed volume and spread into the unstressed volume. In this study, to verify it, we measured thermoelectromotive force of air-dried gabbro blocks under the same loading condition. As a result, the Seebeck coefficient of the stressed volume decreased from ~0.8-1.2mV/K to ~0.5-0.7mV/K when stressed at 60MPa, while that of the unstressed volume did not remarkably change. This meant that the concentration of holes increased in the stressed volume and such a change was little in the unstressed volume. Thus, it was clarified that holes were generated in the stressed volume and the distribution of the holes spreading reached only near around the stressed volume. Provably, holes that reach the unstressed edge are only a little part of the whole holes. A possible source of the holes is peroxy bond: one of the most popular lattice defects in igneous rock-forming minerals. An antibonding energy level of this bond shifts down into the Valence band during loading and acts like an accepter. In the Earth’s crust, a change of stress/strain in and around a fault before/during faulting is expected to cause the activation/spread of positive holes and form an abnormal electric field in and around the fault.