

Polarization characteristics of the scattering waves related to earthquake occurrence

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Converting characteristics of polarized VHF scattering waves observed before earthquakes was investigated. In generally, FM broadcasting stations are emitting horizontal polarized waves, however, in Hokkaido there are many FM broadcasting station which emitting vertical polarized waves. They are NHK-Hiroo, NHK-Urakawa, NHK-Nakashibetsu, and 64MHz our original stations. Fukumoto et al (2002), and Sakata et al (2003) showed that from horizontal polarization FM station (NHK-Sendai), horizontal scattering waves were only received. In the Hidaka Mountains region of Hokkaido, we have experienced many cases that scattering waves were observed before Hidaka Mountain earthquakes from NHK-Hiroo by horizontal antenna at Erimo observing station, and that at other observing stations, form 64MHz-emitting stations scattering waves were observed by vertical antenna. These facts suggest to infer that the scattering waves are created on the earth's surface near the epicenter to have horizontal polarization component.