



Simultaneous observations of the AKR and the AKR-like emissions

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Auroral Kilometric Radiation (AKR) is a strong terrestrial radio emission generated at high invariant latitudes by energetic electron beams in the Electron Cyclotron Maser process, starting at the altitude of ~ 2000 km above the Earth's surface.

Recently, occurrences of the similar emissions, called AKR-like, have been observed at much lower altitudes (about 600-800 km) and at the ground-level.

We observed many cases of AKR-like emissions within the frame of the low-altitude RELEC mission. They were located in the high invariant latitude regions of the Earth's ionosphere in the frequency range up to about 500 kHz. Comparing the corresponding dynamic spectra, we present here some coincidences (in time and in the frequency ranges) of the AKR-like emissions with Earth's AKR emissions observed onboard STEREO A + B, WIND/WAVES and GEOTAIL missions. We have found several dozens of coincidences between AKR-like and AKR emissions. At present, mechanisms leading to such emissions are not fully understood.