# Geotail and Image Observations of Kilometric Continuum Radiation

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Kilometric continuum (KC) is a major component of the escaping continuum radiation in the 100 - 800 kHz frequency range first identified ¥cite{Has99} by the Sweep Frequency Analyzer (SFA) data of the Geotail Plasma Wave Instrument (PWI). Although the escaping continuum is not ‘continuum’ as shown in the previous section, the new extension is named ‘kilometric continuum’ to distinguish it from auroral kilometric radiation or AKR (which is in the same frequency range) and yet indicate that it is a high frequency extension of NTC. KC intensities are similar to those of normal continuum and much weaker than those of AKR.

A simultaneous observation of kilometric continuum with IMAGE RPI
and Geotail PWI discovered the following fact (Hashimoto et al., 2005).
Intense kilometric continuum was received during the
disturbed time, especially Kp is larger than 7. Kilometric continuum spectra
observed by each satellite show quite good similarity
including the fine structures. IMAGE moved from the southern hemisphere to the northern hemisphere. On the other hand, Geotail moved in the equatorial region.
Both satellites observed almost the same spectra in a wide latitude range
of more than 30 degrees. Their longitudes are close within 10 degrees.
IMAGE RPI observed the emission in wide latitudinal range different from general trends reported previouly. It would be difficult to explain these quite similar spectra by multiple narrow beam sources. Rather, this can be explained if the sources radiate uniformly in wide emission cones
in latitude and both satellites receive the emissions from the same
sources contrary to the beaming theory.

In order to examine this further, more simultaneous obsevations are analysed.

Hashimoto, K., R. R. Anderson, J. L. Green, and H. Matsumoto (2005), Source and propagation characteristics of kilometric continuum observed with multiple satellites, J. Geophys. Res., 110, A09229, doi:10.1029/2004JA010729.