Automations of whistlers

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Whistlers are naturally occurring electromagnetic signals which are radiated from the return strokes of lightning discharges, and propagated through the ionosphere and magnetosphere from one hemisphere to the other along the geomagnetic field lines. When recorded on the ground, these signals sound like whistling tones of falling pich hence called “whistlers”. Their dispersion characteristics may be used for determining the electron density distribution and other ionospheric parameters.

To determine the dispersion characteristics of whistlers from their frequency-time spectrograms manually is highly complicated, time consuming and some times inaccurate. In order to remove these difficulties, a software has been developed to perform the analysis of such whistlers digitally. In this paper some whistlers recorded at Agra, Varanasi and Allahabad stations have been chosen and both the manual and digital method of analysis have been applied to study their dispersion characteristics. The results show that some of the whistlers are high dispersion whistlers and synchronized whistlers need special interpretation on the basis of dispersion.