

A Dual-Beamwidth Method for Observing Atmospheric Turbulence Intensity with Radar

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This paper presents a new estimation method of atmospheric turbulence intensity, the dual-beamwidth method. The dual-beamwidth method requires sampling the same volume of air simultaneously with two different beamwidths. We have tested this method using observations taken with the MU radar located near Shigaraki, Japan. An experiment was conducted at the MU radar on August , 2000. Two different configurations were used for this experiment: the full antenna (the 25-group), and approximately one-third of the antenna (the 7-group). The profiles from the usual spectral width method and the dual beamwidth method agree well between 5.0 and 7.5km