

Method of Correctiing Variance of Point Monthly Rainfall Directly Estimated Using Low Frequent Observations from Space

EIICHI NAKAKITA¹, SHUNSUKE OKANE²

¹*Disaster Prevention Research Institute, Kyoto University, Japan*

²*Dept. Urban and Environmental Engineering, Kyoto University, Japan*

This paper proposes a method of correcting variance of point monthly rainfall directly estimated as sample value with low frequent observations from space. First, expectation of sample variance of monthly rainfall is formulated as a function of frequency and length of observation. In the formulation, key parameter is correlation time length. Second, the formulation is validated using high frequent observations by a ground-based weather radar. Third, a method identifying the parameter when only low frequent observations are available. As a result from application to TRMM/PR observations, it is shown that the formulation and the method of identification work well and importance of incorporating spatial correlation in further correcting sample variance of areal mean monthly rainfall.