

Title: Parameter Estimation of Z-R Relationship Focusing on the Target Value

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## Parameter Estimation of Z-R Relationship Focusing on the Target Value

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**Abstract.** The objective of this study is to estimate the parameters of the rainfall estimation relation considering the target rainfall intensity. All of the techniques used to improve the quality of radar data have been developed based on the mean value of the data. However, the threshold of rainfall intensity used in FFWS is significantly different from the mean value. Therefore, the reliability of high rainfall intensity estimation using radar data decrease. To overcome this problem, this study proposed a new method to estimate the parameters of the Z-R relationship aiming at the target high rain rate value. This method is based on the re-analysis of the drop size distribution (DSD) and the parameters of the Z-R relationship. Exponential distribution was considered in this re-analysis. Also, as an application example, this study analyzed the data from Biseulsan radar in Korea. As a result it could be shown that the newly estimated Z-R relationship has a higher accuracy at the target rain rate zone than that estimated by the conventional method.

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