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论文

新一代天气雷达VIL产品修正方法初探

张维全,李闻生,李洋

辽宁省人工影响天气办公室 沈阳110016

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摘要 基于对VIL物理量产品的生成原理和特点的分析后认为:由于产品生成过程中只使用固定的Z-M关系,而实际的Z-M关系因季节和地域的不同变化很大,故VIL物理量产品数据很难与实际情况很好地符合,不宜在人工增雨作业指挥中作为定量数据指标来直接应用。据此,从理论上对如何修正天气雷达提供的VIL产品数据进行了探讨:通过引入“VIL修正函数”,可从理论上解决在考虑了某个具体的Z-M关系的条件下对VIL产品数据进行修正的问题;提出了对VIL物理量产品数据进行修正的修正表格法与修正曲线法,并以沈阳为例,对修正表格和修正曲线的制作及使用方法作了必要的解释。

关键词 天气雷达 VIL产品 修正函数 修正方法

分类号

Primary study on the revised method to the VIL products of the New-Generation Weather Radar

ZHANG Weiquan LI Wensheng LI Yang

Liaoning Weather Modification Office;Shenyang 110016

Abstract Based on the analysis of the principle and the properties of the VIL physical quantity product,the data of the VIL physical quantity product should not be used directly to instruct the weather modification operations as a quantitative index,because only one fixed Z-M relationship is used in the course of generating products.In fact,the Z-M relationship changes obviously with different seasons and regions,so that the data of the VIL seldom accords with real values.In order to solve the above problem,the thorough study how to revise the data of the VIL product provided by the New-Generation Weather Radar should be done theoretically.The theoretical solution how to revise the VIL product when an idiographic Z-M relationship is taken,is given according to the "VIL Revising-Function".In the last place,two methods,i.e.the revised table and the revised curves for correcting the values of the VIL physical quantity product were brought forward.And as a case study of Shenyang region,some necessary explanations to the processes and the steps of the revised table and the revised curves were shown.

Key words Weather radar VIL product Revising-function Revising-method

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通讯作者