International Journal of Environmental Engineering and Management.
ISSN 2231-1319, Volume 4, Number 6 (2013), pp. 561-566

http://www.ripublication.com/ ijeem.htm

Doppler Weather Radar Surface Rainfall Intensity Validation Study

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Abstract

In Radar meteorology validation plays very important role for the accuracy of product of radar. Validation of Radar includes the calibration process that makes the radar more accurate for calculating the Rainfall intensity and other products. In the validation of SRI product of Radar, the Radar measurement is compared with the surface instruments (SRG,ARG) observation. The result is helpful to find out the more accurate value because Radar measurement is totally based upon the reflectivity factor and the SRG and ARG measurements are totally surface based observation. So, both the instruments give the different value for a same observations due to the validation we includes all the surface as well as upper air parameters to measure the closed value of actual rainfall.

Keywords: Introduction; Proposed Implementation; Literature review; Conclusion; Acknowledgement, Reference and Bibeolography.

1. Introduction

In this validation proposed work is under the project no. RDR-54715(RF) and providing the fully Description on the basis of the proposed work. In the Radar product generation PPI,MAXZ ,PCAPPI,SRI and volume velocity processing also produced based on the IMD-B and IMD-C scanning process.

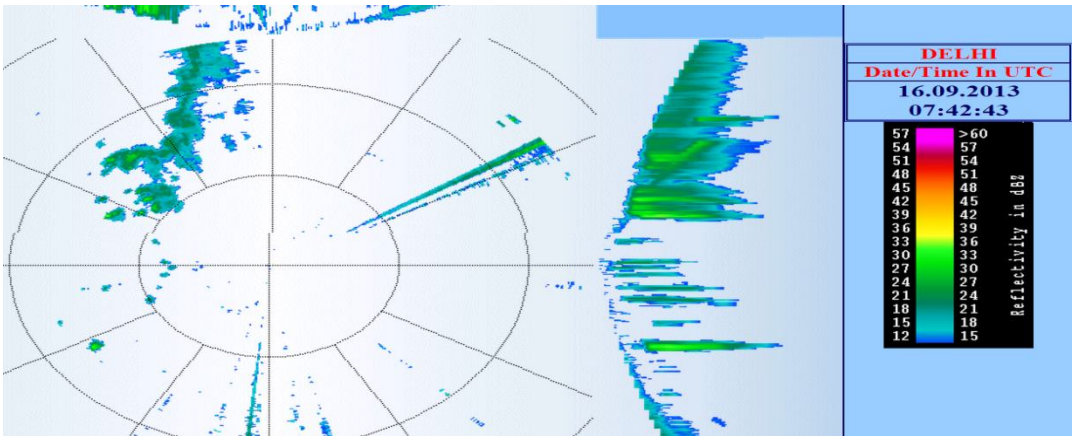

Figure 1: The caption comes after the illustration or photograph and is centred. Any diagram or figure that has been previously published should be referenced. This photograph appears courtesy of [DW Radar, 16 Sept. 2013].

2. Proposed Implementation

2.1 Sampled rain data

In the implementation strategy must necessary need of the practical estimated work and it is totally based on the large set of data , but one sampled description provided in this paper work is dependent on the following data sample. Data is fully based on the latitude and longitude values.

Data availability in the two form:-

(1). In the tabular form

Table 1: SRI data according to the latitude and longitude.

Latitude	Latitude	SRI
13.251	80.311	0.00
13.251	80.317	0.00
11.131	79.070	0.00
11.131	79.076	0.00
11.224	78.872	0.02
11.224	78.878	0.02
11.330	78.871	0.00
11.330	78.878	0.00
13.151	80.253	0.00
13.151	80.259	0.00

Table 2: Altidude data according to the latitude and longitude.

No	DatabaseTable	SatID	StateName	CallSign	Latitude	Longitude	Altitude
1	ENNORE PORT	A0A69B9A	Tamil Nadu	EPT	13.25	80.31	10.6
2	ARIYALUR	A0A69548	Tamil Nadu	ARY	11.13	79.07	78
3	PERAMBALUR	A0A83F0A	Tamil Nadu	PBR	11.22	78.87	120.8
4	COONOOR	A0A665CC	Tamil Nadu	COO	11.33	76.80	1765
5	MADHAVARAM_AGRO	A0A6AE00	Tamil Nadu	MVM	13.15	80.25	16.5

(2) In the xml file format :-

In the xml file format data is tag according to the xml file format in following form<Rain<station name><lat><long><sri value>>

Here proposed work finally reach on the Laterror-0.00 &0.001 but larger error occurred in the longitude sequence it is approximately taken out .006 & .007.

3. Literature Review

M. Rajeev an D. S. Pai R. Anil Kumar B. Lal doing analysis on the " New statistical models for long –range forecasting of southwest monsoon rainfall over India " [1] are provide complete description on the stastical model , 1st one is Ensemble multiple linear regression [EMR] and 2nd Projection pursuit regression(PPR).

4. Conclusion

The Rainfall intensity is measured by two different instrument (Radar and Surface rain gauge). Both the instruments are based upon different parameter. By the validation process we can include both the parameter by comparing the value of the same observations and get more accurate data with lake of errors.

In the weather many types of parameters are measured " Tornadoes, wall clouds , Hail of any size , Flooding and Rain excess here rain excess rate through the radar is 1.0 to >100 mm/hour measured and generating a very clear image according to the intensity and the color coding.

5. Acknowledgement

This paper is prepared by the help of Mr. B Arul Kannan Scientist "c" and Mr. KC Sai Krishnan Scientist "E" .Without of the guidance of Sathish Bhatiya sir Scientist "F"

(DDGM UI) ,DP Mishra Sir Scientist “F”Dr. RK Datta sir Scientist”E” and Mr. S Venkateswarlu Scientist “E”. In this paper description provided with the help of all support of Imd staff and we are thankful to DG IMD UI , New Delhi 110003.

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Received: 11 November 2005 / Accepted: 14 September 2006 ,M.Rajeevan , D.S. Pai , R. Anil Kumar and B. Lal on the titled “ New statistical models for long-range forecasting of southwest monsoon rainfall over India”

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E. COPPOLA (CETEMPS, Physics Department, University of L’Aquila, L’Aquila, Italy), D. I. F. GRIMES (TAMSAT, Department of Meteorology, University of Reading, Reading, Berkshire, United Kingdom) , M. VERDECCHIA AND G. VISCONTI(CETEMPS, Physics Department, University of L’Aquila, L’Aquila, Italy) doing research on the titled “Validation of Improved TAMANN Neural Network for Operational Satellite-Derived Rainfall Estimation in Africa” Manuscript received 10 October 2005, in final form 9 February 2006.

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6. Bibeologrophy

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