

4. Conclusion

Validation results are thus, absolute temperature = 0.4313 K, relative humidity = 0.9989 %, pressure = 0.0201 (hpa) respectively. The validation of the correlation coefficient results shows that all the tropospheric parameters have effects on radio refractivity, but relative humidity has more effect which is attributed to the large quantity of moisture at the troposphere. From the estimation results, it is clear that artificial neural network has the capacity of estimating tropospheric refractivity since the estimated values has close agreement with the calculated values.

5. References

- [1] Ajayi G.O (1989). Physics of the tropospheric Radio propagation. *Radio Africa*'97, 42-72.
- [2] Aysegul Y (2006). Atmosphere physics lecture notes, Canakkale Onsekiz Mart University.
- [3] Hall MPM (1979). Tropospheric effects on electromagnetically measured Range: prediction from surface weather data'. *Radio sciences* 6(3), 353- 367
- [4] ITU-R (2003). Effect of Temporal Variations of Refraction on Radio wave Propagation, Rec P881, ITU, Geneva, 131-138.
- [5] Ibeh G.F, Agbo G.A and Rabia S (2012). Application of artificial neural network and Angstrom-PreScott models in prediction of global solar radiation of Uyo City, Nigeria with atmospheric parameters. *Advances in Applied Science Research*, 3 (1):619-624.
- [6] Ibeh G.F and Agbo G.A (2012), Estimation of Tropospheric Refractivity with Artificial Neural Network at Minna, Nigeria, *Global Journal of Science Frontier Research Interdisciplinary*. Vol. 12, pp 8-14