$$BN2 = \sum_{n=1}^{4} c_{nN} I_n \tag{9}$$

where the c's are determined by regression relations. For it is easy to show that if

$$\bar{B}N = \sum_{n=1}^{4} k_{nN} I_n \tag{10}$$

as the several authors previously cited propose, then, because from equation (8) $BN1$ is also of that form, $BN2$ must be of the form given by equation (9).

4. CONCLUSIONS

The results discussed above indicate that some assumption about the atmospheric structure must be made to evaluate the atmospheric temperature. Many methods (Wark and Fleming, 1966; Westwater and Strand, 1968; Rodgers, 1966; Smith, 1969) utilize the statistics of the atmospheric temperature structure; i.e., they use the fact that the temperature at one level in the atmosphere is highly correlated with temperature at adjacent levels and even with levels far removed. Other methods assume that the atmosphere is made up of straight line or curved segments between temperatures that have been evaluated by iterative or other methods (Chahine, 1968; House and others, 1968; and Wark, 1961).

These studies (except Wark, 1961) generally attempted to find, not the mean temperature in layers, but more detailed structure of the atmosphere. However, even to deduce the mean temperature in layers, an assumption about the atmospheric structure must be made. Wark (1961), for example, assumed that the Planck function, B, was linear with log p in each layer.

One method which might be attempted treats the second term on the right of equation (8) as a correction term.

This, together with a relation of the type suggested in figure 1, can perhaps be used to estimate $BN2$ from $BN1$. Since $BN1$ is obtained directly from the radiances, $\bar{B}N$ would then also depend only on the radiances.

Still other methods, always involving some assumptions which directly or indirectly cope with the terms involving V, can of course be designed.

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CORRECTION NOTICE

Vol. 96, No. 10, Oct. 1968, p. 736, caption of figure 1(a) and 1(b): "absorption" should be replaced by "slab absorptivity" and add "The absorptivity of a slab is computed from the absorptivity of a column by using the following formula,

$$a_f(u) = a_i(1.66u)$$

where a_f and a_i are the absorptivities of slab and column, respectively, and u is optical thickness at STP; ordinate (a_f), abscissa $(\log u)$"; p.739, legend of figure 8: symbols for plotting (M–S) and $(R\text{–}W)_2$ should be interchanged.