[PLASKETT-DELURY]

The trend and magnitude of these mean residuals in Plaskett's measures for the different latitudes and the ratio of the mean algebraic to the mean numerical residual, which is except in one case less than one-third, do not indicate any systematic differences for the different lines. If any lines or elements gave a different velocity to the mean reversing layer, then the mean residuals for the different latitudes should be of the same sign, should diminish as the latitude increased and should vanish at the pole; but we find, on the contrary, that none of the lines fulfils this condition, but that the residuals bear the appearance of being quite accidental in character. Even take the case of the Na line 5682.869 which gives a strong negative residual, we find no decrease with higher latitudes and the mean residual for the pole is much higher than the average, showing that the difference is probably due to something in the line. Again, if this sodium line did give a lower value of the velocity, the other sodium line, the last on the list, should also give a negative residual, whereas we see its residuals are entirely accidental. The same condition of affairs is shown by the tabulated residuals from De Lury's measures of Series II in which the mean algebraic is always less than one-fourth the mean numerical residual, although the numbers are higher owing to his higher probable error of measurement.

These considerations form sufficient grounds for the statement that in the region around λ 5600 none of these lines or elements shows any differences of velocity from that of the reversing layer other than can readily be accounted for by accidental errors of measurement.

31. The same thing appears to be the case in the λ 4250 region. The following table contains the residuals in metres per second from the 15 lines measured on 24 plates at the equator.