

4860 atmospheres (pressure = $-(dE/dr_0)/4\pi r_0^2$). The shifts of spectral lines could also have an influence on the Lorentz-Lorenz function. In fact the behaviour of the Lorentz-Lorenz expression ⁸⁾ as function of density could be partially explained by assuming that the wave lengths of spectral lines diminish by an amount of some percents or some tens of percents (cf. also ⁹⁾ and ¹⁰⁾).

Our thanks are due to Mr A. Botzen for valuable help with numerical calculations.

REFERENCES

- 1) A. Michels, J. de Boer and A. Bijl, *Physica* **4**, 981, 1937 (Van der Waals-number).
- 2) A. Sommerfeld and H. Welker, *Ann. Physik* [5], **32**, 56, 1938.
- 3) E. T. Whittaker and G. N. Watson, *Modern Analysis*, page 337, Cambridge 1927.
- 4) H. Buchholz, *Z. angew. Math. Mech.* **23**, 47 and 101, 1943 (formula (5.5)).
- 5) E. Jahnke and F. Emde, *Tables of Functions*, page 1, 3rd edition, Leipzig-Berlin 1938.
- 6) H. A. Webb and J. R. Airey, *Phil. Mag.* **36**, 129, 1918.
- 7) *Rep. Brit. Ass. Advancement Sc.* **94**, 276, 1926 (Oxford); **95**, 220, 1927 (Leeds).
- 8) J. Hamers, thesis, Amsterdam 1941.
- 9) A. Michels and J. Hamers, *Physica* **4**, 995, 1937; A. Michels, H. and L. Lebesque and S. R. de Groot, *Physica*, in the press; A. Michels, A. Botzen and S. R. de Groot, *Physica*, in the press.
- 10) S. R. de Groot and C. A. ten Seldam, *Physica* 1947, letter to the editor.