

63. G. L. Pickard, *Nature* **138**, 123 (1936); also Pickard and F. E. Simon, *Proc. Phys. Soc. (London)* **61**, 1 (1948).
64. J. A. Rayne, *Phys. Rev.* **107**, 669 (1957).
65. F. E. Hoare and B. Yates, *Proc. Roy. Soc. A* **240**, 42 (1957).
66. W. H. Keesom and J. A. Kok, *Physica* **1**, 770 (1933/4).
67. P. H. Keesom and N. Pearlman, *Phys. Rev.* **88**, 140 (1952).
68. J. P. Filby and D. L. Martin, *Can. J. Phys.* **40**, 791 (1962).
69. B. N. Samoilov, *Dokl. Akad. Nauk SSSR* **86**, 281 (1952).
70. J. R. Clement and E. H. Quinnett, *Phys. Rev.* **92**, 258 (1953).
71. C. A. Bryant and P. H. Keesom, *Phys. Rev.* **123**, 491 (1961).
72. F. J. Webb and J. Wilks, *Proc. Roy. Soc. A* **230**, 549 (1955).
73. W. H. Keesom and P. H. van Laer, *Physica* **5**, 193 (1938).
74. W. S. Corak and C. B. Satterthwaite, *Phys. Rev.* **102**, 662 (1956).
75. T. H. K. Barron and J. A. Morrison, *Can. J. Phys.* **35**, 799 (1957).
76. P. L. Smith, in "Conf. Phys. Basses Temp.", p. 281. Inst. Intern. du Froid, Paris, 1956.
77. B. Dreyfus, B. B. Goodman, A. Lacaze, and G. Trolliet, *Compt. Rend.* **253**, 1764 (1961).
78. P. R. Roach and O. V. Louarnasmaa, *Bull. Am. Phys. Soc.* **7**, 408 (1962).
79. J. G. Dash, R. D. Taylor, and P. P. Craig, *Proc. 7th Intern. Conf. Low Temp. Phys., Toronto, Ont., 1960*, p. 705. Univ. of Toronto Press, Toronto, Canada, 1961.
80. O. V. Louarnasmaa, *Phys. Rev.* **129**, 2460 (1963).
81. O. V. Louarnasmaa, *Proc. 3rd Rare Earth Conf., Clearwater, Florida, 1963*. Gordon & Breach, New York, 1964 (to be published).
82. W. H. Keesom and M. Desirant, *Physica* **8**, 273 (1941).
83. D. White, C. Chou, and H. L. Johnston, *Phys. Rev.* **109**, 797 (1958).
84. T. R. Waite, R. S. Craig, and W. E. Wallace, *Phys. Rev.* **104**, 1240 (1956).
85. R. Blanpain, *Bull. Classe Sci., Acad. Roy. Belg.* **47**, 750 (1961).
86. J. A. Kok and W. H. Keesom, *Physica* **3**, 1035 (1936).
87. W. H. Keesom and J. A. Kok, *Physica* **1**, 175, 503, and 595 (1933-1934).
88. J. L. Snider and J. Nicol, *Phys. Rev.* **105**, 1242 (1957).
89. M. Horowitz, A. A. Silvisti, S. F. Malaker, and J. G. Daunt, *Phys. Rev.* **88**, 1182 (1952).
90. B. J. C. van der Hoeven, Jr. and P. H. Keesom, *Phys. Letters* **3**, 360 (1963).
91. P. H. Keesom and N. Pearlman, *Phys. Rev.* **86**, 897 (1954).
92. K. G. Ramanathan and T. M. Srinivasan, *Phys. Rev.* **99**, 442 (1955).
93. N. E. Phillips, *Phys. Rev.* **118**, 644 (1960).
94. P. L. Smith and M. N. M. Walcott, in "Conf. Phys. Basses Temp.", p. 283. Inst. Intern. du Froid, Paris, 1956.
95. T. A. Sandenaw, C. E. Olsen, and R. B. Gibney, in "Plutonium 1960" (E. Grison, W. B. Lord, and R. D. Fowler, eds.), p. 66. Cleaver-Hume, London, 1961.
96. M. Blackman, in "Handbuch der Physik" (S. Flügge, ed.), Vol. 7, Part I, p. 325. Springer, Berlin, 1955.
97. J. de Launay, *Solid State Phys.* **2**, 219 (1956).
98. C. T. Anderson, *J. Am. Chem. Soc.* **52**, 2296 (1930).
99. M. W. Zemansky, "Heat and Thermodynamics," 4th ed. McGraw-Hill, New York, 1957.
100. L. D. Jennings, R. E. Miller, and F. H. Spedding, *J. Chem. Phys.* **33**, 1849 (1960).
101. K. A. Gschneidner, Jr., "Rare Earth Alloys." Van Nostrand, Princeton, New Jersey, 1961.

PHYSICAL PROPERTIES AND INTERRELATIONSHIPS

375

102. S. Arajs and R. V. Colvin, *J. Less-Common Metals* **4**, 159 (1962).
103. T. Murao, *Progr. Theoret. Phys. (Kyoto)* **20**, 277 (1958).
104. J. A. Hofmann, A. Paskin, K. J. Tauer, and R. J. Weiss, *Phys. Chem. Solids* **1**, 45 (1956); and **15**, 187 (1960).
105. G. K. White and S. B. Woods, *Phil. Trans. Roy. Soc. London A* **251**, 273 (1959).
106. H. L. Johnston, H. N. Hersh, and E. C. Kerr, *J. Am. Chem. Soc.* **73**, 1112 (1951).
107. D. Rajdev and D. H. Whitmore, *Phys. Rev.* **128**, 1030 (1962).

cesium to a maximum value of 2240°K for diamond. Most of the values for θ_0^S , however, are less than 600°K.

The variation of θ_0^S for the elements of the fourth, fifth, and sixth periods of the Periodic Table is shown in Fig. 21. The usual behavior as noted for other properties is seen in this figure, although there are some

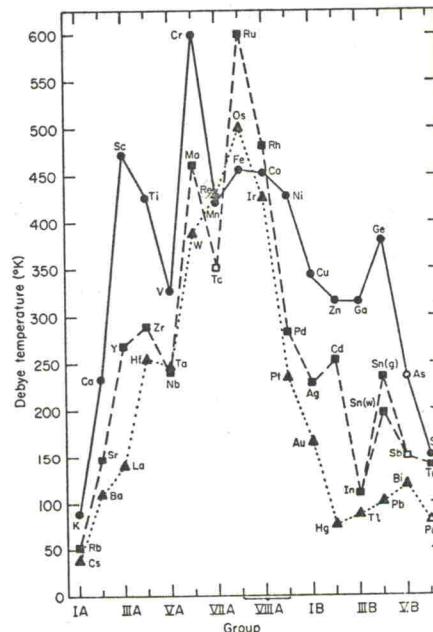


FIG. 21. Debye temperature at 0°K, as determined from specific heat data of the elements of the fourth, fifth, and sixth periods of the Periodic Table. Open points are estimated values.