

RECENT SPECTROSCOPIC STUDIES OF HIGH-TEMPERATURE  
MOLECULES

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ABSTRACT

Molecules that are important in high temperature studies of gases may be studied spectroscopically not only in absorption at high temperature but also in emission or absorption in electric discharges or their afterglows, or in absorption in flash photolysis of various parent compounds. Recent spectroscopic work on high-temperature molecules by all of these methods will be described. This work includes studies of diatomic hydrides (BH, AlH, CH, SiH,) of several homonuclear diatomic molecules and ions ( $H_2$ ,  $C_2$ ,  $C_2^-$ ,  $N_2^+$ ,  $O_2$ ,  $Mg_2$ ,  $Si_2$ ) and a few heteronuclear non-hydride molecules (BF, CF, NF, NCl, SO). A good deal of work on spectra of triatomic free radicals has been done and will be briefly described.