THE ABUNDANCE OF C\textsuperscript{7} IN DIFFUSE INTERSTELLAR CLOUDS

D. P. RUFFLE, R. TERZIEVA, E. HERBST, Departments of Physics and Astronomy, and Chemical Physics Program, The Ohio State University, Columbus, OH 43210.

It has recently been proposed that C\textsuperscript{7} is a carrier of five of the numerous diffuse interstellar bands. In this talk, we report an attempt to reproduce the required abundance of C\textsuperscript{7} relative to hydrogen of \(4 \times 10^{-8}\) through the use of various models for the chemistry in diffuse clouds. Our models incorporate large neutral and charged linear hydrocarbons, and contain the time-dependent desorption of seed molecules from grain surfaces. We are able to find conditions that lead to the production of the required fractional abundance of C\textsuperscript{7} but only for short periods of time in an astronomical sense.