THE ABUNDANCE OF C_7^- IN DIFFUSE INTERSTELLAR CLOUDS

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It has recently been proposed that C_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_7^- relative to hydrogen of 4×10^{-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_7^- but only for short periods of time in an astronomical sense.