H_3^+ ABUNDANCES MODELED WITH A VARIABLE COSMIC RAY IONIZATION RATE

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Recent observations of H_3^+ abundances in diffuse clouds have suggested a higher value for the cosmic ray ionization than has been generally accepted. We provide a model that takes into account a variable cosmic ray ionization, and show that it produces H_3^+ abundances close to the observed values. We also apply this method to an IR-dense cloud model.