
Vanja Šarković

Analiza termalne evolucije molekulskih oblaka i stabilnosti jedinjenja unutar njih

Cilj ovog projekta je analiza stabilnosti molekula različite kompleksnosti unutar međuzvezdanih molekulskih oblaka. Nakon odabira 13 oblasti, unutar jednog oblaka, koje sadrže amonijak i imaju visoku koncentraciju čestica utvrđuju se trenutna temperatura i temperatura formiranja amonijaka na osnovu orto-para odnosa. Na osnovu ovih podataka se procenjuje promena količine toplote u oblaku, od trenutka formiranja amonijaka do danas. Ova vrednost je uzeta za meru termalne evolucije jednog oblaka. Analizirajući sastav oblaka i poredeći koncentracije različitih jedinjenja u oblaku diskutovana je korelacija između stepena stabilnosti određenog molekula i promene količine toplote u oblaku.

Analysis of Thermal Evolution of Molecular Clouds and Stability of Compounds within those Clouds

This work aims to analyze the stability of various molecules in interstellar molecular clouds. After focusing on 13 high-density subdomains which contain ammonia, present temperature has been estimated as well as the temperature in the moment of the formation of ammonia, inferred from the ortho/para ratio. From these data, the total amount of heat absorbed by the cloud in that period can be estimated. This quantity is taken as a measure of thermal evolution of a single subdomain. Analyzing the abundances of different molecules in the cloud, correlation between the stability of the molecule and the amount of heat absorbed by the cloud was discussed.

Vanja Šarković (1994) Beograd, Silvija Kranjčevića 14, učenica 3. razreda Matematičke gimnazije u Beogradu

MENTOR:

Ivan Milić, Astronomska opservatorija Beograd