



Contribution ID : 32

Type : **Poster**

The Dependence of the $^{22}\text{Ne}/^{20}\text{Ne}$ Ratio on the Distribution of Massive Stars in the Galaxy

Wednesday, 4 July 2007 14:45 (0:00)

Abstract content

In this paper we are introducing a technique to show the variation of the $^{22}\text{Ne}/^{20}\text{Ne}$ ratio at different galactic locations and the dependence of this ratio on the distribution of massive stars in the galaxy. Most of the previously developed models focused on explaining the ratio variation between the galactic and solar $^{22}\text{Ne}/^{20}\text{Ne}$ but never pointed out to the possibility of variation of the $^{22}\text{Ne}/^{20}\text{Ne}$ ratio at different galactic locations. We examined the $^{22}\text{Ne}/^{20}\text{Ne}$ ratio at different galactic locations outside the solar system. We show that the distribution of the massive stars in the galaxy have a major effect on the abundance ratio which means that this anomaly in the ratio is not something unique between the solar system and the galactic cosmic rays. In this paper we will concentrate on the effect of the Wolf-Rayet (WR) stars with initial masses generally 40 times larger than the mass of the Sun. The flexibility of this technique will allow us to individually examine all the sources that can produce a certain cosmic ray nuclei in the galaxy and estimate the probability of survival of the ^{22}Ne as a function of the radial distance of the WR star from the solar system.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olive, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 2 (OG part 1), pages 105-108

Primary author(s) : Dr. FARAHAT, Ashraf (Alexandria University, EGYPT)

Presenter(s) : Dr. FARAHAT, Ashraf (Alexandria University, EGYPT)

Session Classification : Posters 1 + Coffee

Track Classification : OG.1.2