Nuclear Physics in Astrophysics XI



Contribution ID: 68

Type: Contributed talk

2D chemical evolution model of ${}^{26}Al$ and ${}^{60}Fe$

Wednesday 18 September 2024 09:25 (15 minutes)

 26 Al and 60 Fe are two short-lived radioactive nuclei that can be used as tracers of the star formation. In the next years, COSI, the new γ -ray instrument by NASA will be launched and will provide us with a new insight of the distribution of these two elements in the Milky Way. In view of these new upcoming measurements, by means of a detailed 2D chemical evolution model I provide a theoretical 2D map of the 26 Al and 60 Fe mass distribution. I test several different combinations of initial parameters such as the present time nova rate and the star formation efficiency to highlight which is the best one to reproduce observational constraints (such as present day star formation, supernova rate and gas mass) together with the 26 Al and 60 Fe observations provided by previous instruments. We are also able to produce a flux map as function of the Galactic longitude that can be compared to those provided in the past years by COMPTEL and INTEGRAL to identify which are the lines of sight were overproduction of these two elements is observed.

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Session Classification: Plenary Session