^{7}Li production in inhomogeneous Big-Bang nucleosynthesis

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Big-Bang Nucleosynthesis (BBN) can explain the origin of light-elements, such as ^{4}He, D, and ^{7}Li. However, recent observational abundance of ^{7}Li is higher than the theoretical value from Standard model of BBN (^{7}Li Problem) [1].

We study ^{7}Li production in inhomogeneous Big-Bang Nucleosynthesis (IBBN) model. We assume that a high-density island exists at the early universe. The yield abundance of the light elements (^{4}He, D, and ^{7}Li) is sensitive to the value of baryon density at each zone. In our IBBN model, ^{4}He is more abundant in the high density region whereas D tends to be produced in the low density region [2]. Meanwhile, ^{7}Li is not so simple. Because, ^{7}Li can be produced in ether region, depending parameters in our model.

In our calculation, the volume fraction of the high-density region is $\lesssim 10^{-5}$, to ease the conflict between the prediction of Standard BBN and observations,

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