Impact of the $^{7}Be(\alpha,\gamma)^{11}C$ Reaction on the Primordial Abundance of ^{7}Li

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We calculate the radiative capture cross section for $^{7}Be(\alpha,\gamma)^{11}C$ and its reaction rate of relevance for the Big Bang nucleosynthesis (BBN). The impact of this reaction on the primordial ^{7}Li abundance is revised including narrow and broad resonances in the pertinent energy region. Our calculations show that it is unlikely that very low energy resonances in ^{11}C of relevance for the BBN would emerge within a two-body potential model. Based on our results and a comparison with previous theoretical and experimental analyses, we conclude that the impact of this reaction on the so-called "cosmological lithium puzzle" is completely irrelevant.

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