

## 宇宙线加速暗物质及地球屏蔽效应研究

We present new constraints on light dark matter boosted by cosmic rays (CRDM) using the 205.4 kg day data of the CDEX-10 experiment conducted at the China Jinping Underground Laboratory. The Monte Carlo simulation package CJPL\_ESS was employed to evaluate the Earth shielding effect. Several key factors have been introduced and discussed in our CRDM analysis, including the contributions from heavier CR nuclei than proton and helium, the inhomogeneity of CR distribution, and the impact of the form factor in the Earth attenuation calculation. Our result excludes the dark matter–nucleon elastic scattering cross section region from  $1.7 \times 10^{-30}$  to  $10^{-26}$   $\text{cm}^2$  for dark matter of  $10 \text{ keV}/c^2$  to  $1 \text{ keV}/c^2$ .

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