

Measurement of beam characteristics of Low-Energy Accelerators

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China JinPing underground Laboratory (CJPL) was established inside the tunnels piercing Jinping Mountain in Sichuan Province, China, which can provide an ideal environment for low background experiment. A new 400 kV accelerator, with high current based on an ECR source, will be placed at this underground laboratory for nuclear astrophysics experiment (JUNA). Due to the new accelerator still being under construction, the resonance reactions, like $^{27}\text{Al}(p, \gamma)^{28}\text{Si}$ and $^{24}\text{Mg}(p, \gamma)^{25}\text{Al}$, and non-resonance $^{12}\text{C}(p, \gamma)^{13}\text{N}$ was studied at 320 kV high-voltage platform at IMP to estimate the proton beam characteristics, like absolute energy, energy spread, and long-term energy stability. The results of experiment and current state of new 400 kV accelerator will be given.

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