

STUDY OF ASTROPHYSICALLY IMPORTANT STATES IN ^{26}Si USING RADIOACTIVE BEAMS

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The astrophysically important states in ^{26}Si have been studied previously by different reactions with stable beams because of their connections to the stellar $^{25}\text{Al}(p, \gamma)^{26}\text{Si}$ reaction rate. We performed two measurements in inverse kinematics using radioactive beams to explore these states. One is a single-neutron removal from the radioactive ^{27}Si via $p(^{27}\text{Si}, ^{26}\text{Si}^*)d$ at NSCL, in which we measured the de-excitation gamma-rays from $^{26}\text{Si}^*$. The other one is a measurement of proton resonances via elastic proton scattering with a radioactive ^{25}Al beam at RIKEN.