

Abstract Submitted
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Measurement of $^{26}\text{Si}+p$ resonant elastic scattering for studying the $^{26}\text{Si}(p,\gamma)^{27}\text{P}$ reaction HYO SOON JUNG, Y.K. KWON, J.Y. MOON, J.H. LEE, C.C. YUN, C.S. LEE, Chung-Ang U., SEONHO CHOI, M.J. KIM, Y.H. KIM, Seoul Natl. U., Y.K. KIM, J.S. PARK, Hanyang U., E.J. KIM, Chonbuk Natl. U., C.B. MOON, Hoseo U., S. KUBONO, H. YAMAGUCHI, D. KAHL, CNS, U of Tokyo, T. TERANISHI, Kyushu U., Y. WAKABAYSHI, JAEA, N. IWASA, Tohoku U., Y. TOGANO, RIKEN, S. CHERUBINI, INFN-LNS — Proton resonant states in ^{27}P have been studied by the resonant elastic scattering of $^{26}\text{Si}+p$ with a ^{26}Si radioactive ion beam at 3.039 MeV/u bombarding a thick H_2 gas target with the inverse kinematics method at the low-energy RI beam facility CRIB at CNS, University of Tokyo. The properties of these resonance states are important to better determine the production rates of $^{26}\text{Si}(p,\gamma)^{27}\text{P}$ reaction which is one of the astrophysically important reactions to understand the production of the ground state of ^{26}Al under the explosive stellar environments at higher temperature. In this work, some new states have been observed with a high statistics and background free through a covered the range of excitation energies from $E_x \sim 2.3$ to 3.8 MeV. The resonant parameters of those states, were determined by an R-matrix analysis of the excitation functions.

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