

Abstract Submitted
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Formation of Kaonic Atoms and Kaonic Nuclei by In-flight (K^- , p) reactions JUNKO YAMAGATA, Department of Physics, Nara Women's University, HIDEKO NAGAIHIRO, RCNP, Osaka University, SATORU HIRENZAKI, Department of Physics, Nara Women's University — We study the kaonic atom and kaonic nucleus formation by the in-flight (K^- , p) reactions for C, O, Si and Ca target cases theoretically. Deeply bound kaonic atoms were predicted to exist as quasi-stable states and were expected to be observed in some proper experimental methods. Kaonic nuclear states are also expected to exist with large decay widths. We evaluate the formation cross sections of the kaonic atoms and kaonic nuclei using the Green function method with the appropriate energy dependent optical potentials. We will discuss the possibilities to observe the kaonic states in the (K^- , p) reactions based on the realistic theoretical calculations.

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