HAW05-2005-020007

Abstract for an Invited Paper for the HAW05 Meeting of the American Physical Society

Strange trybaryon and present experimental program MASAHIKO IWASAKI, RIKEN

Recently, we have performed an experimental search for deeply bound kaonic states by the kaon absorption reaction at rest in a liquid helium target. We observed very distinctive mono-energetic peak formation in a proton missing-mass spectrum. We denote it as a strange tribaryon, $S^0(3115)$, with baryon number 3, charge 0, isospin 1 and strangeness -1. If we attribute the mono-energetic peak to the formation of a deeply bound kaonic state, the separation energy of the kaon should be as deep as about 200 MeV. In the present paper, we will overview the present experimental data, and discuss briefly two experimental programs for more detailed information. Work done in collaboration with the KEK PS E471 Collaboration and the KEK PS E549 Collaboration.