

Kaonic ^3He and ^4He X-ray measurements in SIDDHARTA

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An energy shift of the 2p level of kaonic ^3He and ^4He atoms is recently studied in theory and experiment. A theory predicting deeply bound kaonic nuclear states estimates a significant energy shift in kaonic ^3He or ^4He . The SIDDHARTA experiment measured the kaonic ^3He and ^4He 3d-2p X-ray transitions at the DAFNE e+e- collider. The strong interaction shifts of the kaonic ^3He and ^4He 2p state were determined precisely. The world's first observation of kaonic ^3He was performed. In addition, a possible isotope effect between ^3He and ^4He was obtained. In this talk, the results of kaonic ^3He and ^4He X-ray measurements in the SIDDHARTA experiment will be presented, as well as future plans.

Primary author: Dr ISHIWATARI, Tomoichi (SMI)

Presenter: Dr ISHIWATARI, Tomoichi (SMI)

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