

## On the Possibility of Production and Identification of the Superheavy Hydrogen Hypernucleus ${}^6_{\Lambda}\text{H}$ \*

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The investigation of hypernuclei with a neutron halo is one of the new topic of hypernuclear spectroscopy [1]. Recently a narrow resonance of superheavy Hydrogen isotope  ${}^5\text{H}$  ( $= {}^3\text{H}+nn$ ),  $E_{\text{res}} = 1.7$  MeV has been observed [2].

The hypernucleus  ${}^6_{\Lambda}\text{H}$  could be identified unambiguously in experiments with relativistic hypernuclei prepared for NUCLOTRON in the Joint Institute for Nuclear research, Dubna, using pionic decay  ${}^6_{\Lambda}\text{H} \rightarrow \pi^- + {}^6\text{He}$  as an excellent trigger, [3]. We recall that similar trigger allowed to determine production cross sections and lifetimes of light hyperhydrogen isotopes  ${}^3_{\Lambda}\text{H}$  and  ${}^4_{\Lambda}\text{H}$  [4].

The confirmation of the existence of the  ${}^6_{\Lambda}\text{H}$  hypernucleus will be a strong motivation to search spectra of neutron-rich hypernuclei produced by strange and double charge exchange ( $K^-$ ,  $\pi^+$ ) [5] or ( $\pi^-$ ,  $K^+$ ) reactions [6]. Such experiments are prepared by FINUDA Collaboration at DAΦNE (Frascati) [1] and by KEK-PS-E521 Collaboration for 50 GeV proton synchrotron J-PARC [7].

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