

Search for Supernova Relic Neutrinos with 2.2MeV gamma Tagging at Super-Kamiokande-IV

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A search for Supernova Relic neutrinos in the energy range $13.3 \text{ MeV} < E_{\bar{\nu}_e} < 31.3 \text{ MeV}$ with neutron tagging at Super-Kamiokande-IV is conducted. We identify 13 inverse-beta-decay candidates, all of which can be attributed to background. In the absence of signal, 90% C.L. upper limits are calculated with respect to different models. A differential flux upper limit is also given with no model dependence.

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