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Neutrino-nucleus reactions in a supernova environment FUTOSHI MINATO, KOUICHI HAGINO, NOBORU TAKIGAWA, Department of Physics, Tohoku University, A. BAHA BALANTEKIN, Physics Department, University of Wisconsin — There is a suggestion that the neutrino induced fission in the supernova environment may alter the r-process pattern for the element abundance. In order to assess the role of temperature in the neutrino induced fission, we perform thermal RPA calculations for neutrino-nucleus interactions. Advantages of this method are that it can be easily applied to heavy nuclei and that excitations to the continuum states can be included exactly. We will systematically discuss how the temperature affects the reaction rate, and its implication for the neutrino induced fission.

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