Abstract

We consider neutrino-photon interaction in the non-commutative standard model and calculate the amplitudes for $\gamma\nu \to \gamma\nu$ and its crossed processes. In the center of mass the cross section grows as $(\Theta_{NC})^4 E^6$ which can exceed the cross section for $\gamma\nu \to \gamma\gamma\nu$ and $\gamma\nu \to \gamma\nu$ in the high energy limit in the commutative space. We briefly discuss the astrophysical implication of our results.