

## Neutrino spin oscillations engendered by transversal matter current

### Authorship annotation

### Session and Location

Wednesday Session, Poster Wall #139 (Hölderlin-Room)

### Abstract content

We consider the effect of neutrino spin oscillations  $\nu_e^L \Leftrightarrow \nu_e^R$  engendered by the neutrino weak interaction with the transversal matter current  $\mathbf{j}_{\perp}$  that was predicted [1] within the quasiclassical treatment of the neutrinos Michel–Telegdi equation. Now we develop [2] the consistent quantum treatment of this effect based on the direct calculation of the matter currents. Within the developed approach the neutrino mixing effects are properly accounted for. The obtained closed expressions for the neutrino spin oscillation probabilities are of interest for the astrophysical applications.

### Poster included in proceedings:

yes

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**Session Classification :** Poster Session Wednesday

**Track Classification :** Poster (participating in poster prize competition)