

**Disentangling genuine from matter-induced CP violation
in neutrino oscillations** Neutrino 2018 | Wednesday, P#14

Neutrino 2018 | Wednesday, P#141

Asymmetry Disentanglement

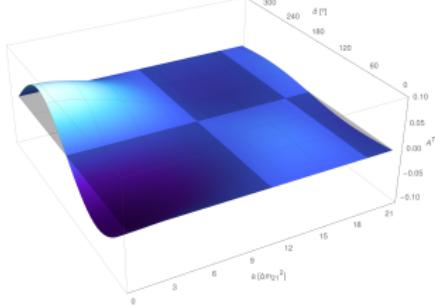
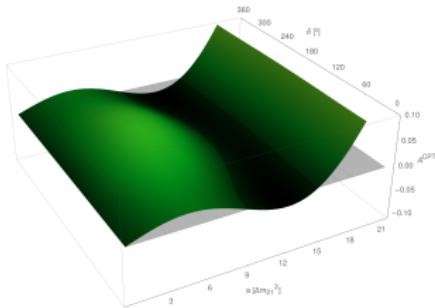
$$\mathcal{A}_{\alpha\beta}^{\text{CP}} \equiv P(\nu_\alpha \rightarrow \nu_\beta) - P(\bar{\nu}_\alpha \rightarrow \bar{\nu}_\beta) =$$

$$\mathcal{A}_{\alpha\beta}^{\text{CPT}} : -4 \sum_{i < j} \left[\operatorname{Re} \tilde{J}_{\alpha\beta}^{ij} \sin^2 \tilde{\Delta}_{ij} - \operatorname{Re} \tilde{\bar{J}}_{\alpha\beta}^{ij} \sin^2 \tilde{\bar{\Delta}}_{ij} \right]$$

$$\mathcal{A}_{\alpha\beta}^T : -2 \sum_{i \leq i} \left[\text{Im } \tilde{J}_{\alpha\beta}^{ij} \sin 2\tilde{\Delta}_{ij} - \text{Im } \tilde{\bar{J}}_{\alpha\beta}^{ij} \sin 2\tilde{\bar{\Delta}}_{ij} \right]$$

$\mathcal{A}_{\alpha\beta}^{\text{CPT}}$ is invariant under T, L-even
and vanishes when $a = 0 \forall \delta$

$\mathcal{A}_{\alpha\beta}^T$ is invariant under CPT, L -odd
and vanishes when $\sin \delta = 0 \forall a$



Disentangling genuine from matter-induced CP violation in neutrino oscillations

Neutrino 2018 | Wednesday, P#141

