Contribution ID: **58** Type: **Short talk at the venue**

Target space entanglement in quantum mechanics of fermions and matrices

Friday, 26 November 2021 14:00 (15 minutes)

I will introduce the notion of target space entanglement. Quantum entanglement is closely related to the structure of spacetime in quantum gravity. For quantum field theories or statistical models, we usually consider the base space entanglement. However, target space instead of base space sometimes directly connects to our spacetime, for example, perturbative string theories. We thus need target space entanglement. To define the target space entanglement, we have to generalize the definition of the conventional entanglement entropy. I will explain this generalization and apply it to the first quantized particles, in particular, fermions.

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Session Classification: Short talks