

# Chiral fermion on curved domain-wall

*Thursday, 9 December 2021 14:20 (20 minutes)*

We consider a massive fermion system having a curved domain-wall embedded in a square lattice. As already reported in condensed matter physics, the massless chiral edge modes appearing at the domain-wall feel “gravity” through the induced spin connections. In this work, we embed  $S^1$  and  $S^2$  domain-wall into a Euclidean space and show how the gravity is detected from the spectrum of the Dirac operator.

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**Session Classification:** Short talk