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Chiral fermion on curved domain-wall

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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.

Presenter: Mr AOKI, Shoto (Osaka University)

Session Classification: Short talk