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Crank-Nicolson discretization scheme and lattice fermions

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It is well known that Crank-Nicolson discretization scheme is second order accurate in time. Its application in the case of the Dirac operator leads to a lattice theory with reduced doublers and broken parity. Adding a 3-space Wilson term one obtains a single fermion which is second order accurate in time. In the case of an imaginary term the doubler degeneracy is lifted and the ground state describes a single Weyl fermion.

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