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## Pion spectrum for the 2-flavor staggered Wilson fermion

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The 4 flavors of the usual staggered fermion give rise to 16 pions (pseudoscalar mesons). We study the effect on the pion spectrum of turning on the 2-flavor staggered Wilson term in the staggered fermion action. 8 of the pions become heavy while 8 remain light. 6 of the light pions are identified as two copies of the 2-flavor pion triplet. They have the same light quark content but different heavy (doubler) quark content. The pions within each triplet are degenerate. The remaining two light mesons are identified as two copies of the flavor-singlet eta meson, which remains light in our study since the disconnected piece of its propagator is omitted. This verifies that the 2-flavor staggered Wilson formulation works as intended as far as the pion spectrum is concerned.

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