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Topological phases of Su-Schrieffer-Heeger alternating ladders

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Alternating ladders constructed from unit cells consisting of two rungs with odd number of sites (one or three sites) connected to two rungs with even number of sites (two sites) are investigated using the Su-Schrieffer-Heeger (SSH) model. Rich phase diagrams of topological insulating phases separated by critical lines are identified and compared to phases of regular two and three leg SSH ladders. The topological nature of these phase diagrams depend on the choices between the equivalent unit cells that construct the alternating ladders.

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