

Abstract Submitted  
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**Periodically driven cold fermions in integer Quantum Hall regime**

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— We present theoretical results for ultracold fermions in the presence of a constant artificial magnetic field but time-periodically modulated optical lattices. Besides the familiar integer quantum Hall effect in the stroboscopic limit, we show a series of Floquet topological phases that have no static analog and are unique to periodically driven systems. A hallmark of these phases is the appearance of robust, counter-propagating edge modes. We elucidate the nature of these edge states by considering different driving protocols and then discuss their experimental signatures.

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