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Disordered Floquet Topological Insulators PARAJ BHATTACHARJEE, NETANEL LINDNER, GIL REFAEL, California Institute of Technology — We study the problem of localization in the recently proposed two-dimensional Floquet topological insulators in semiconductor quantum wells. We compute the single particle Green's function for the system using a real-time simulation. The phase diagram obtained indicates that at weak disorder the system remains delocalized. The edge-states are protected and only destroyed when the disorder closes the gap in the Floquet spectrum. The system localizes only at disorder strength which is much larger than the gap in the Floquet spectrum, long after this gap has been closed due to disorder. Analytically we compare these results with the results obtained using disorder averaged Floquet Green's functions in the Born approximation.

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