Lightwave driven electrons in a Floquet topological insulator

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It is well known that electrons inside of matter can be strongly driven by intense light fields. It is also well known that light can dress a material, resulting in a novel band structure and hence novel material properties, demonstrated beautifully with atoms in optical lattices and with light transport through nanophotonic structures. In this talk, we will show that we can now light-dress graphene and drive electrons inside of the resulting new, topologically non-trivial band structure.