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Spin-orbit coupling in quasiperiodic systems CARLOS WEXLER,
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sity of Tokyo — Electrons in incommensurate systems (e.g., electrons in a lattice
in presence of a perpendicular magnetic field) have a rich behavior exemplified by
the beautiful Hofstadter butterfly, a self-similar spectrum which is a multifractal
Cantor set. We analyze the effect of spin-orbit coupling in this system which can
be described by a generalization of Harper's equation. We find that the added term
significantly modifies the scaling laws and appears to induce a delocalization of the
insulator.

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