

# **The 2016 Physics Nobel prize: David Thouless and topological invariant.**

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The 2016 Physics Nobel prize was awarded to Thouless and Kosterlitz for the discovery of a new kind of phase transition and to Thouless and Haldane for the discovery of the topological meaning of the Quantum Hall conductance.

I shall describe Thouless original finding that the Hall conductance is related to a Chern numbers and some of the beautiful mathematical physics that grew from it. No background in condensed matter physics or topology will be assumed. The talk will be elementary.