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Relativistic Dynamics of Graphene

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Graphene is a one-atom thick layer of carbon atoms where electrons obey an emergent Dirac equation. Only seven years after it first became available in the laboratory, graphene has captured the attention of a wide spectrum of scientists: from particle physicists interested in using graphene's emergent relativistic dynamics to study quantum field theory phenomena to condensed matter physicists fascinated by its unusual electronic properties and technologists searching for materials for the next generation of electronic devices. This presentation will review the basics of graphene and some questions, such as the possibility of chiral symmetry breaking, which have overlap with similar ones in strong interaction particle physics.