Graphene and novel Dirac materials

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After the synthesis of graphene whose low energy excitations are described by massless Dirac fermions in 2+1 dimensions, a whole new branch of topological materials has emerged with unexpected physical properties, some of them restricted before to high energy physics. In addition to their potential applications, the novel Dirac materials have boosted a unification of different areas in Physics. In this talk I will give a general overview of the main developments in this fascinating area.