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Currents in Metric Spaces

Abstract. Currents in metric spaces were introduced by Ambrosio and Kirchheim in 2000, after some ideas of De Giorgi. The new approach, formulated consistently in the Lipschitz category, generalizes and sometimes even simplifies the classical “smooth” theory of currents in the sense of de Rham. It provides flexible and powerful methods to deal with generalized “submanifolds” of any dimension and geometric variational problems in singular metric spaces. The aim of this minicourse is to describe the basic concepts and results, and to indicate some applications.