II Joint Conference of the Belgian, Royal Spanish and Luxembourg Mathematical Societies
Logroño, June 6–8, 2016

Real, p-adic, and motivic (oscillatory) integrals and applications

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In the real, p-adic and motivic settings, we will present recent results on oscillatory integrals, from a rather modern viewpoint. In the reals, they are related to subanalytic functions and their Fourier transforms, and questions related to o-minimality arize. In the p-adic and motivic case, there are furthermore transfer principles (to switch between fields of different characteristics) which lead to applications in representation theory and the Langlands program. This is joint work with Comte, Gordon, Hales, Halupczok, Loeser, Miller, Rolin, and Servi (in various combinations).

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