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Motivic integration with pseudo-finite residue field and fundamental lemma

I will present an adaptation of Cluckers-Loeser's theory of motivic constructible functions to the case of pseudo-finite residue field. This new tool allows us to prove a motivic version of Ngô's geometric stabilization theorem, inspired by the proof of Groechenig, Wyss and Ziegler. This in turns implies a motivic version of the fundamental lemma of Langlands-Shelstad. This is joint work with François Loeser and Dimitri Wyss.