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Paracontrolled calculus and Singular PDEs through the heat semigroup

We will present the main idea of the paracontrolled calculus, which was recently introduced in the Euclidean situation by Gubinelli, Imkeller and Perkowski. That gives an alternative approach of Hairer’s theory in order to deal with singular PDEs, as the Parabolic Anderson Model. We will then explain how we can extend it in many various situations, given by a heat semigroup with gradient estimates. This work is joint with Ismael Bailleul and Dorothee Frey.