

A RELATION BETWEEN REGULARITY STRUCTURES AND PARACONTROLLED CALCULUS

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In the field of singular SPDEs, two prominent theories are recently established: the theory of regularity structures by Hairer and the paracontrolled calculus by Gubinelli, Imkeller, and Perkowski. They are written by different mathematical tools, so that we can use either of them according to the situation. However, the GIP theory applies to less number of equations because it is less algebraic. In this talk, we discuss how to fill the gap between the Hairer theory and the GIP theory. Our goal is to show the equivalence of the Hairer's theory and the "higher order" version of the GIP theory introduced by Bailleul and Bernicot, on the Euclidean space.

This talk is based on a joint work with Ismaël Bailleul.