

A panorama of singular sub-Laplacians and their spectra

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Laplace-Beltrami operators on rank-varying sub-Riemannian structures have been recently gaining interest due to their exotic properties. In this talk we will start from the 0th property of their analysis: self-adjointness. In a large number of cases, and in contrast with the Riemannian case, the sub-Riemannian setting presents large families of operators which are essentially self-adjoint even though the manifold is non-complete. We will then move on to present a panoramic view of what little is known about their spectral properties, with a particular emphasis on sub-Riemannian Weyl laws. Throughout the talk we will touch upon a number of simple-to-state open questions to stimulate participant's interest.

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