
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; this talk is an invitation for the audience to explore them. We will start from the 0th property of their analysis: self-adjointness. In many 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 brief panoramic view of what 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 interest and foster future discussions.