

# Oversampling and undersampling in de Branges spaces arising from Bessel operators

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## **Abstract**

In this talk, we address de Branges spaces generated by symmetric singular differential operators of the Bessel type. The classical results on oversampling and undersampling of functions in Paley-Wiener spaces are generalized to the class of spaces mentioned above. These results are achieved by means of asymptotic methods, perturbation theory and the theory of Bessel functions. The notions of oversampling and undersampling of functions play a prominent role in the signal processing literature, however, to the best of our knowledge, estimates of this kind are not known for de Branges spaces apart from the Paley-Wiener class.

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