

# From Sturm-Liouville problems to fractional and anomalous diffusions

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Some fractional and anomalous diffusions are driven by equations involving fractional derivatives in both time and space. Such diffusions are processes with randomly varying times. In representing the solutions to those diffusions, the explicit laws of certain stable processes turn out to be fundamental. This paper directs one's efforts towards the explicit representation of solutions to fractional and anomalous diffusions related to Sturm-Liouville problems of fractional order associated to fractional power function spaces. Furthermore, we study a new version of the Bochner's subordination rule and we establish some connections between subordination and space-fractional operator

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