Stein's method for infinitely divisible laws with finite first moment

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Stein's method is a powerful tool to quantify proximity in law between random variables. It has interactions with many other fields of mathematics such as random matrices, Malliavin calculus and number theory. In a recent work together with Christian Houdr, we explore the connection between infinite divisibility of probability measure and Stein's type identities. Moreover, we introduce a common Stein's method framework for an important subclass of infinitely divisible laws, namely self-decomposable laws. This common methodology leads the way to quantitative version of classical weak limit theorems dating back to the works of A. Khintchine and P. Lévy.