

# Directionally convex ordering in multidimensional jump diffusions models

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## Abstract

The purpose of the present article is to use the so-called the propagation of directional convexity property and a general version of the Kolmogorov equation to obtain ordering results in  $n$ -dimensional jump diffusion model. We give some conditions to prove the comparison inequality for directional convex function, and if this conditions are true for any class  $\mathcal{F}$  of the directionally convex order then we obtain also comparison result between two multidimensional jump diffusion in the directionally convex order.

**Keywords.** Convex ordering, directional convexity, Concentration and deviation inequalities, Propagation of directional convexity, Jump diffusion processes.

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