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Modelling epidemiological spreading via superdiffusion

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ABSTRACT

Epidemiological spreading does not only happen from person to geographically neighbouring person but often over wide distances, when infected but asymptomatic persons travel and carry infection to others over wide distances. Superdiffusion has been suggested to model such spreading in spatially restricted contact networks, i.e. there is still a notion of geographical distance, but spreading happens with high probability for large distances. From fractional calculus several ways of describing superdiffusion are known. We investigate the representation in Fourier space which is easily generalizable to higher dimensional space in order to compare with stochastic models of epidemiological spreading.

References

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