

# Long-time behaviour for nonlocal convection-diffusion problems

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In this talk we will present some nonlocal evolution problems that involve operators of the type:

$$\mathcal{L}u(x) = \int_{\mathbf{R}^d} J(x-y)(u(y) - u(x)) dy$$

We analyze the asymptotic behaviour of the solutions of the following nonlocal convection-diffusion equation

$$u_t = J * u - u + G * |u|^{p-1}u - |u|^{p-1}u.$$

We obtain the first term in the asymptotic expansion of the solutions. These results are mainly obtained by scaling arguments and a new compactness argument that is adapted to nonlocal evolution problems.

Joint work with the C. Cazacu, T. Ignat, A. Pazoto, J. Rossi, D. Stancu-Dumitru.

## REFERENCES

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