

## **Boundary problems for nonlocal operators**

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We will present some facts concerning the Dirichlet problem in bounded domains for nonlocal operators of the form

$$Lu(x) = PV \int_{\mathbb{R}^n} u(x) - u(x+y) d\nu(y),$$

where  $\nu$  is an arbitrary Lévy measure. We will briefly describe technical difficulties caused by considering singular measures, show the existence and uniqueness of solutions for a wide class of measures  $\nu$ , and discuss some variants of the maximum principle with its applications. We will also present an explicit geometric approach to the related extension problem. The poster is based on the author's master thesis "Boundary problems for nonlocal operators", supervised by prof. Krzysztof Bogdan.