

INTEGRABLE STEADY STATES FOR A NONLOCAL EQUATION

SALOMÉ MARTÍNEZ, UNIVERSIDAD DE CHILE

We consider the following nonlocal equation

$$\int J\left(\frac{x-y}{g(y)}\right) \frac{u(y)}{g(y)} dy - u(x) = 0 \quad x \in \mathbb{R},$$

where J is an even, compactly supported, Hölder continuous kernel with unit integral and g is a continuous positive function. Our main concern will be with unbounded functions g . More precisely, we study the influence of the growth of g at infinity on the integrability of positive solutions of this equation, therefore determining the asymptotic behavior as $t \rightarrow +\infty$ of the solutions to the associated evolution problem in terms of the growth of g .