

The existence of Aubry–Mather sets and infinitely many subharmonic solutions to the following p -Laplacian like nonlinear equation

$$(p-1)^{-1}(\phi_p(x'))' + [\alpha\phi_p(x^+) - \beta\phi_p(x^-)] + g(x) = h(t)$$

is discussed, where $\phi_p(u) = |u|^{p-2}u$, $p > 1$, α, β are positive constants satisfying

$\alpha^{-\frac{1}{p}} + \beta^{-\frac{1}{p}} = \frac{2}{n}$ with $n \in \mathbb{N}$, h is piece-wise two times differentiable and $2\pi_p$ -periodic, $g \in C^n_1(\mathbb{R})$ is bounded, $x^\pm = \max\{\pm x, 0\}$, $\pi_p = \frac{2\pi}{p \sin(\pi/p)}$.