ASYMPTOTIC ISSUES IN THE CALCULUS OF VARIATIONS

MICHEL CHIPOT

We would like to present some results of asymptotic behaviour for problems of the calculus of variations of the type

\[
\min_{W^{1,q}_0(\Omega_{\ell})} \int_{\Omega_{\ell}} F(\nabla v) - f v dx
\]

when \( F \) satisfies

\[
\lambda |\xi|^q - \Lambda \leq F(\xi) \leq \Lambda |\xi|^q + \Lambda \quad \forall \xi \in \mathbb{R}^n
\]

and when \( \Omega_{\ell} = \ell \omega_1 \times \omega_2, \omega_1, \omega_2 \) bounded open sets of \( \mathbb{R}^p, \mathbb{R}^{n-p} \) respectively, \( \ell \to \infty \). We analyse in particular the limit of the minimizer of (1) when \( \ell \to \infty \).

INSTITUTE FOR MATHEMATICS
UNIVERSITY OF ZURICH
WINTERTHURERSTRASSE 190
CH-8057 ZURICH
E-mail address, Michel Chipot: m.m.chipot@math.uzh.ch