1056-41-1726 **Laura Angeloni*** (`angeloni@dipmat.unipg.it`), Dipartimento di Matematica e Informatica, Universita' degli Studi di Perugia, Via Vanvitelli 1, 06123 Perugia, Italy. *Convergence and Rate of Approximation for Generalized Sampling-type Operators in Orlicz Spaces.*

We study in the general setting of Orlicz spaces the problem of convergence and order of approximation for the following family of nonlinear integral operators

$$(T_w f)(s) = \int_H K_w(s - h_w(t), f(h_w(t))) d\mu_H(t), \quad w > 0, \ s \in G, \quad \text{(I)}$$

where G and H are locally compact topological groups, $f : G \to \mathbb{R}$ is a measurable function, μ_H is the Haar measure on $\mathcal{B}(H)$, $\{h_w\}_{w>0}$ is a family of homeomorphisms $h_w : H \to h_w(H) \subset G$ and $\{K_w\}_{w>0}$ is a family of kernel functions. The general class (I) contains, as particular cases, several families of operators such as the nonlinear sampling-type operators, which have important applications in the field of signal processing and image analysis. (Received September 22, 2009)