Projectivity and Injectivity of Orlicz Spaces

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Let G be a locally compact group with left Haar measure μ and Φ be a Young function. In this talk we will consider the Orlicz space $L^{\Phi}(G)$ as an $L^1(G)$- module. If we take $\Phi(x) = \frac{x^p}{p}, 1 \leq p < \infty$, $L^{\Phi}(G)$ becomes the classical Lebesgue space $L^p(G)$. We show that $L^{\Phi}(G)$ is projective $L^1(G)$- module if and only if G is compact. Also we show that the $L^1(G)$-module $L^{\Phi}(G)$ is injective whenever G is an amenable locally compact group. These results generalize classical results on L^p spaces.
This is a joint work with Serap Öztop.