1099-42-243 **Rodolfo Toledo*** (toledo@nyf.hu), P.O.Box 166., Nyiregyhaza, Hungary. *Boundedness in L^p-norm of operators based on representative product systems.*

A modern point of view in Fourier analysis is to consider orthonormal systems defined on locally compact groups. Therefore, the study of Walsh series should be performed by representing the Walsh functions as the characters of the dyadic group, i.e., the complete product of the discrete cyclic group of order 2 with the product of topologies and measures. Vilenkin in 1947 generalized this structure studying the complete product of arbitrary cyclic groups.

Toledo and Gát generalized the Vilenkin systems studying the complete direct product of arbitrary finite groups, even though they are non-abelian groups. Product systems formed by normalized coordinate functions of continuous irreducible unitary representations of finite groups are called representative product systems. In Fourier analysis several properties and results differ considerably if they are defined on non-abelian groups.

The aim of my talk is to summarize some results with respect to the boundedness of partial sums of Fourier series and Cesàro means in L^p-norm based on different representative product systems. (Received February 10, 2014)