MEHDI MONFARED, University of Windsor
On Equidistribution of Continuous Functions Along Monotone Compact Covers

We discuss equidistribution of continuous functions along monotone compact covers as a generalization of equidistribution of sequences. We give a measure theoretic necessary and sufficient condition for equidistribution of continuous functions. Using almost periodic means, we give an analogue of Weyl's equidistribution criterion for continuous functions taking values in arbitrary topological groups. We discuss an analogue of van der Corput's inequality formulated for vectors in a Hilbert space. We show how the generalized inequality leads to an equidistribution result for functions defined on arithmetic progressions in the lattice N^m, taking values in arbitrary topological groups.

The results in this talk are obtained by my Ph.D. student Y. Zhu and are inspired by earlier works of Weyl, Eckmann, Hlawka and van der Corput.