**Minimality of restrictions, group-extensions and products of compact minimal abelian flows**

presented by
**Alica Miller**
Michigan State University

For a compact minimal abelian flow $\mathcal{X} = (T, X)$ and a syndetic subgroup $S$ of $T$ we introduce the notion of the $\mathcal{X}$-envelope of $S$ and use it to give a criterion for minimality of the restricted flow $(S, X)$ in terms of eigenvalues of $\mathcal{X}$ and deduce a criterion for total minimality of $\mathcal{X}$. We apply these two criteria in several situations. In case of group-extensions we get a new proof of a classical theorem of Parry (for any abelian acting group).

We use Parry's theorem to prove a characterization of disjointness of two compact minimal abelian flows, one of which is almost periodic, in terms of eigenvalues. We then deduce a new proof of the characterization in terms of common factors.

We also introduce the notion of SK groups and use it, together with the criteria, to generalize some statements which relate total minimality, weak mixing and triviality of the structure group, as well as to improve various conditions which imply non-total-minimality of compact minimal abelian flows.