

# Metaquasihamiltonian groups and related topics

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Groups whose non-normal subgroups are abelian are called *metahamiltonian*, they were introduced and studied by Romalis and Sesekin in a series of papers. It turns out that locally graded metahamiltonian groups are soluble of derived length at most 3 and have finite derived subgroup of prime-power order. Many different generalizations of metahamiltonian groups have been studied. In particular, in [De Falco et al., Rend. Circ. Mat. Palermo 52 (2003), 70-76] groups whose non-permutable subgroups are abelian were introduced. Such groups were called *metaquasihamiltonian* and it was proved that any locally graded metaquasihamiltonian group  $G$  is soluble with derived length at most 4 and contains a finite normal subgroup  $N$  such that  $G/N$  is quasihamiltonian (i.e. all its subgroups are permutable). In the seminar I will discuss about some generalizations of the class of metaquasihamiltonian groups.