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On extensions of bounded subgroups in Abelian groups

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Abstract: It is well-known that every bounded Abelian group is a direct sum of finite cyclic subgroups. We characterize those non-trivial bounded subgroups H of an infinite Abelian group G , for which there is an infinite subgroup G_0 of G containing H such that G_0 has a special decomposition into a direct sum which takes into account the properties of G , and which induces a natural decomposition of H into a direct sum of finite subgroups.

Keywords: Abelian group; bounded group; simple extension

AMS Subject Classification: Primary 20K21; Secondary 20K27

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