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Arturo Magidin* (magidin@member.ams.org), Mathematics Department, University of Louisiana at Lafayette, P.O. Box 41010, Lafayette, LA 70504-1010, and **Robert F Morse** and **Azhana Ahmad**. *A new classification of 2-generated p -groups of class 2.*

Recently, while applying the classification of two-generated p -groups of class 2 by Bacon and Kappe, and Kappe, Visscher, and Sarmin, we discovered a missing family that consists of non-split extensions that occur for both odd p and $p = 2$.

In this talk we will describe a different approach to classifying these groups, by recognizing each such group of order p^n as a central extension of $[G, G] \cong C_{p^\gamma}$ by $C_{p^\alpha} \times C_{p^\beta}$, where $\alpha + \beta + \gamma = n$. Thus, each positive partition of n of length 3 gives rise to a collection of 2-generator p -groups of class 2 that we partition into isomorphism classes.

We use the presentations to obtain the number of non-isomorphic 2-generator groups of class at most 2 and order p^n , some invariants of the groups, and to compute some homological invariants. (Received August 15, 2008)