## Commutators in residually finite groups

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Groups with commutators of bounded order have received some attention in the recent years.

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Thus, our latest result is an improvement since it shows that t can be taken 68 always.

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I will now explain why 68 commutators are easier to deal with.

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The class of all groups G such that G' is locally finite and every product of 68 commutators has order dividing n is a variety.

Recall that variety is a class of groups defined by equations.

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The fact that the class of all groups G such that G' is locally finite and every product of 68 commutators has order dividing n is a variety is another result in the spirit of the RBP.

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$$\delta_k(x_1,\ldots,x_{2^k})=[\delta_{k-1}(x_1,\ldots,x_{2^{k-1}}),\delta_{k-1}(x_{2^{k-1}+1}\ldots,x_{2^k})]$$

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Thus,  $w = [y, x, \dots, x]$  where x occurs k times.

P. S. and J. C. Silva: Let n and k be positive integers. There exists s depending only on n and k such that if G is a residually finite group in which every product of s k-Engel values has order dividing n, then the corresponding verbal subgroup of G is locally finite.

This was proved a couple of years ago. Now I think perhaps s can be chosen independent of n. No idea if it is possible to take s a constant.