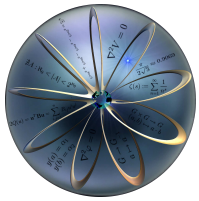

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Scott-Wiegold conjecture

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The Scott-Wiegold conjecture (1976) is stated as follows:

Given distinct prime numbers p, q and r, the free product of cyclic groups $C_p * C_q * C_r$ is not the normal closure of any single element.

In 1992 this was included as problem 5.53 of The Kourovka Notebook: *Unsolved Problems in* [**?**].

The conjecture was proven to be true in 2001 by James Howie [**?**]. Despite remaining an unsolved problem for 25 years, the proof is both brief and fairly elementary.

Whilst the question is group theoretic and involves only , the proof does not use any combinatorial but instead depends on basic notions from topology.

References

[1] V.D.Mazurov, E.I. Khukhro (Eds.), *Unsolved Problems in Group Theory*: The Kourovka Notebook, 12^{th} Edition, Russian Academy of Sciences, Novosibirsk, 1992.

[2] James Howie, *A proof of the Scott-Wiegold conjecture on free products of cyclic groups*, Journal of Pure and Applied Algebra 173, 2002 pp.167–176