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Peter Mayr* (peter.mayr@colorado.edu), CU Boulder, Boulder, CO , and **Nik Ruskuc**, University of St Andrews, St Andrews, United Kingdom. *Finite generation and presentations for subdirect products of loops.*

Recall that a subloop of a direct product of loops is a *subdirect product* if it projects onto each factor.

Like for groups, every direct product of two finitely generated loops is clearly finitely generated. But when is a subdirect product finitely generated? We show that this happens if the factors are finitely generated and, e.g., the projection kernels are finitely generated as normal subloops. This sufficient condition is also necessary if the factors are free (or more generally, finitely presented). A closer analysis leads to questions about finite presentations of loops.

We observe that, unlike for groups, a direct product of two infinite loops can never be finitely presented. The proof employs Evans' confluent rewriting systems for loops (1951).

Finally, using the commutator theory of universal algebra, we show that every subdirect product of three finitely generated loops is finitely generated if its projection on every two factors is the full direct product. (Received August 11, 2016)