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Abelian structures in continuous logic

In classical logic, the 1-based groups are, in some sense, exactly the abelian structures, i.e. abelian groups with distinguished subgroups of its powers. Thanks to B.H. Neumann's lemma, an abelian structure (in fact, the base group need not be abelian) admits elimination of quantifiers down to so-called positive primitive formulas. From this it can be seen that its definable sets are Boolean combinations of cosets of definable subgroups, from which 1-basedness follows. We advance the study of the corresponding notions in continuous first-order model theory. This is joint work with Anand Pillay.