Publicacions més rellevants de la línia de recerca

Grups p-locals

Referència: Broto, Carles; Castellana, Natàlia; Grodal, Jesper; Levi, Ran; Oliver, Bob Subgroup families controlling p-local finite groups. Proc. London Math. Soc. (3) 91 (2005), no. 2, 325–354.

Abstract: A p-local finite group consists of a finite p-group S, together with a pair of categories which encode ?conjugacy? relations among subgroups of S, and which are modelled on the fusion in a Sylow p-subgroup of a finite group. It contains enough information to define a classifying space which has many of the same properties as p-completed classifying spaces of finite groups. In this paper, we examine which subgroups control this structure. More precisely, we prove that the question of whether an abstract fusion system F over a finite p-group S is saturated can be determined by just looking at smaller classes of subgroups of S. We also prove that the homotopy type of the classifying space of a given p-local finite group is independent of the family of subgroups used to define it, in the sense that it remains unchanged when that family ranges from the set of F-centric F-radical subgroups (at a minimum) to the set of F-quasicentric subgroups (at a maximum). Finally, we look at constrained fusion systems, analogous to p-constrained finite groups, and prove that they in fact all arise from groups. 2000 Mathematics Subject Classification 20J99 (primary), 55R35, 20D20 (secondary).

Referència: Broto, Carles; Levi, Ran; Oliver, Bob Discrete models for the p-local homotopy theory of compact Lie groups and p-compact groups. Geom. Topol. 11 (2007), 315–427.

Abstract: We define and study a certain class of spaces which includes p-completed classifying spaces of compact Lie groups, classifying spaces of p-compact groups, and p-completed classifying spaces of certain locally finite discrete groups. These spaces are determined by fusion and linking systems over ?discrete p-toral groups? —extensions of (??p?)r by finite p-groups— in the same way that classifying spaces of p-local finite groups as defined in our paper [The homotopy theory of fusion systems, J. Amer. Math. Soc. 16 (2003) 779–856] are determined by fusion and linking systems over finite p-groups. We call these structures ?p-local compact groups?.

Referència: Broto, Carles; Møller, Jesper M. Chevalley p-local finite groups. Algebr. Geom.

Topol. 7 (2007), 1809–1919.

Abstract: We describe the spaces of homotopy fixed points of unstable Adams operations acting on p- compact groups and also of unstable Adams operations twisted with a finite order automorphism of the p- compact group. We obtain new exotic p- local finite groups.