VNIVERSITAT DE VALÈNCIA
FACULTAT DE CIÈNCIES MATEMÀTIQUES
DEPARTAMENT DE MATEMÀTIQUES
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46100 BURJASSOT (València)

Burjassot, 5th May 2025

Dissertation Defense Council D 02.12.01

Dear colleagues,

All groups considered in the dissertation are finite.

The main results of the I.N. Safonova's dissertation "Problems of the theory of σ-properties of finite groups and their classes" are widely known because they have all been published in prestigious mathematical journals, among which we should mention "Communications in Mathematics and Statistics" (2022), "Communications in Algebra" (2021, 2021, 2022, 2023, 2024, 2024), "Journal of Algebra" (2021, 2023), "Journal of Group Theory" (2021, 2023, 2024), "Archiv der Mathematik" (2023), "Journal of Algebra and Its Applications" (2024), "Quaestiones Mathematicae" (2023), "Ricerche di Matematica" (2024), "Advances in Group Theory and Applications" (2024), "Bulletin of the Australian Mathematical Society" (2023), "Mediterranean Journal of Mathematics" (2022).

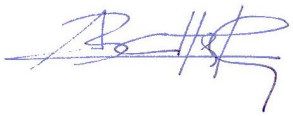
Moreover, many of the dissertation results have found applications in more than 65 publications by other authors. In particular, Theorem 5.5.1 of the dissertation served as the main motivation for writing my (joint with M.M. Al-Shomrani and A.A. Heliel) paper "A note on a paper of Aivazidis, Safonova and Skiba" (Mediterranean Journal of Mathematics, **18** (213), 2021).

The dissertation solves many well-known problems, among which, first of all, we mention the A. Frigerio's Problem (1974) on the description of groups with the transitive modularity condition for subgroups, L.A. Shemetkov's Problem (1995) on the description of the structure of dispersive groups by graph theory methods, A.N. Skiba's Problem (2014) on the classification of $P\sigma T$-groups, Problems 19.87 and 19.88 from the "Kourovskaya Notebook" (2018) on the description of G-covering systems of subgroups for the classes of σ-soluble and σ-nilpotent groups, A.N. Skiba's Problem (2015) on the σ-dispersivity of groups with σ-subnormal $(n+1)$-maximal subgroups.

Thus, it can be stated without any doubt that the main results of the dissertation are of a high scientific level and this dissertation is fully consistent with the level of a Habilitation-dissertation, and its author I.N. Safonova deserves to be awarded

a degree of *Dr. habil.* (*doctor habilitatus*).

Sincerely yours,



Adolfo Ballester-Bolinches
Professor of Algebra (full)