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Permutation groups with few orbits on the power set, II

By MICHAEL GINTZ (Princeton), MATTHEW KORTJE (Cedarville), MEGAN LAURENCE (Notre Dame), ZILI WANG (Berkeley) and YONG YANG (San Marcos)

Abstract. We continue the study of permutation groups acting on the power set $\mathscr{P}(\{1, 2, \ldots, n\})$. Permutation groups must have a minimum of $n + 1$ set-orbits. Previously in [3], the authors of that paper used GAP to classify permutation groups with a low number of orbits for permutation groups having $n + r$ set-orbits for some given $2 \leq r \leq 15$. We develop improvements to their theory and algorithms in GAP to classify further cases, from $16 \leq r \leq 33$.

MICHAEL GINTZ
DEPARTMENT OF MATHEMATICS
PRINCETON UNIVERSITY
FINE HALL, WASHINGTON ROAD
PRINCETON, NJ 08544
USA

MATTHEW KORTJE
DEPARTMENT OF SCIENCE
AND MATHEMATICS
CEDARVILLE UNIVERSITY
251 N MAIN ST
CEDARVILLE, OH 45314
USA

MEGAN LAURENCE
DEPARTMENT OF MATHEMATICS
UNIVERSITY OF NOTRE DAME
225 HURLEY BLDG
NOTRE DAME, IN 46556
USA

ZILI WANG
DEPARTMENT OF MATHEMATICS
UNIVERSITY OF CALIFORNIA-BERKELEY
970 EVANS HALL #3840
BERKELEY, CA 94720-3840
USA

YONG YANG
DEPARTMENT OF MATHEMATICS
TEXAS STATE UNIVERSITY
601 UNIVERSITY DRIVE
SAN MARCOS, TX 78666
USA

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