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**Zbl 617.20045****Beasley, L.B.; Brenner, J.L.; Erdős, Paul; Szalay, M.; Williamson, A.G.***Generation of alternating groups by pairs of conjugates.* (In English)**Period. Math. Hung. 18, 259-269 (1987). [0031-5303]**

Let  $A_n$  denote the alternating group of degree  $n$ . The main result of the paper is the following Theorem 3.05. Almost all conjugacy classes of  $A_n$  contain a pair of generators. (In other words, the proportion of conjugacy classes in  $A_n$  that contain a pair of generators approaches 1 as  $n \rightarrow \infty$ .)

The main theorem required the proof of the following Theorems 2.04 and 3.04. Let  $C$  be a conjugacy class (in the symmetric group of degree  $n$ ) of type  $T = 1^{e(1)}2^{e(2)}3^{e(3)}\dots$ . If  $T$  is not the type of an involution, and if the relation  $\sum_{j \geq 1} e(j) \leq n/2$  holds, then  $C$  contains a pair of elements that generate a primitive group. Almost all partitions of  $n$  have a summand  $> 1$  and relatively prime to the other summands.

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Classification:

20P05 Probability methods in group theory

20F05 Presentations of groups

11P81 Elementary theory of partitions

20D06 Simple groups: alternating and classical finite groups

20D60 Arithmetic and combinatorial problems on finite groups

20B35 Subgroups of symmetric groups

11N45 Asymptotic results on counting functions for other structures

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alternating group; conjugacy classes; pair of generators; partitions