

- ▶ ALEKSANDER IVANOV, MONIKA DRZEWIECKA AND BARTOSZ MOKRY,  
*Generics in invariant subsets of automorphisms of homogeneous structures.*

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Let  $M$  be a countable ultrahomogeneous structure and let  $\rho \in \text{Aut}(M)$ . Let  $\mathcal{C}_\rho = \text{cl}(\rho^{\text{Aut}(M)})$ , where  $\rho^{\text{Aut}(M)}$  denotes the conjugacy class of  $\rho$  and  $\text{cl}$  denotes the operation of topological closure in the automorphism group. We study the following question: *When does the subspace  $\mathcal{C}_\rho$  contain a conjugacy class of  $\text{Aut}(M)$  which is comeagre in it?* Having an answer to this question for all  $\rho \in \text{Aut}(M)$  we, in fact, describe all closed subsets  $\mathcal{C} \subseteq \text{Aut}(M)$  which are invariant under conjugacy in  $\text{Aut}(M)$  and have comeagre conjugacy classes.

Let  $\mathcal{P}$  be the set of all finite partial isomorphisms of  $M$ . The set  $\mathcal{P}$  is ordered by the relation of extension of maps. In this terms we can formulate the standard definitions of the joint embedding property (JEP), the amalgamation property (AP), the cofinal amalgamation property (CAP) and the weak amalgamation property (WAP), see [2]. Let  $\mathcal{P}_\rho = \{p \in \mathcal{P} : p \text{ extends to an automorphism from } \mathcal{C}_\rho\}$ . We deduce from [1]:

The set  $\mathcal{C}_\rho$  has a comeagre conjugacy class if and only if the family  $\mathcal{P}_\rho$  has WAP.

Since for all known examples of structures  $M$  and automorphisms  $\rho \in \text{Aut}(M)$  with comeagre conjugacy classes in  $\mathcal{C}_\rho$ , the family  $\mathcal{P}_\rho$  has CAP, we also ask: *Is it true that in this context properties WAP and CAP are equivalent?*

Let  $G$  be a closed highly homogeneous subgroup of  $S_\infty$  not involving circular orderings. We show that any  $\mathcal{C}_\rho$  from  $G$  contains a conjugacy class which is comeagre in it. Furthermore, the corresponding  $\mathcal{P}_\rho$  has the cofinal amalgamation property. In the case of the automorphism group of a typical ultrahomogeneous partially ordered set similar results are proved.

[1] A. IVANOV, *Generic expansions of  $\omega$ -categorical structures and semantics of generalized quantifiers*, **The Journal of Symbolic Logic**, vol. 64 (1999), pp. 775–789.

[2] A. S. KECHRIS, CH. ROSENDAL, *Turbulence amalgamation and generic automorphisms of homogeneous structures*, **Proceedings of the London Mathematical Society**, (3) vol. 94 (2007), pp. 302–350.