

- MOSTAFA ZAARE, *Preservation theorems for intuitionistic first-order logic*.  
Department of Mathematics, Shahid Beheshti University, G. C., Evin, Tehran, Iran.  
*E-mail*: m.zaare@sbu.ac.ir, zaaremostafa@gmail.com.

This is a joint work with Morteza Moniri.

There are several ways for defining the notion *submodel* for Kripke models of intuitionistic first-order logic. In our approach a Kripke model  $\mathcal{A}$  is a submodel of a Kripke model  $\mathcal{B}$  if they have the same frame and for each two corresponding worlds  $A_\alpha$  and  $B_\alpha$  of them,  $A_\alpha$  is a (classical) submodel of  $B_\alpha$ . We introduce some intuitionistic formula classes, including the classes  $\mathcal{U}$  and  $\mathcal{E}$  of intuitionistic universal and existential formula classes, and prove analogues of the well-known classical preservation theorems for them.

We also define some other notions like *elementary submodel* and *union of chain* for Kripke models and investigate their properties.

Key words: Kripke model, intuitionistic first-order logic, submodel, elementary submodel, universal sentence, existential sentence, preservation theorem, union of chain.

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