

1145-03-460

**Sergey S. Goncharov, Julia F. Knight and Ioannis Souldatos\*** (souldaio@udmercy.edu),  
4001 W. McNichols Road, Department of Mathematics, Detroit, MI 48221. *The Hanf Number for  
Scott Sentences of Computable Structures.*

The *Hanf number* for a set  $S$  of sentences in  $\mathcal{L}_{\omega_1, \omega}$  (or some other logic) is the least infinite cardinal  $\kappa$  such that for all  $\varphi \in S$ , if  $\varphi$  has models in all infinite cardinalities less than  $\kappa$ , then it has models of all infinite cardinalities. S-D. Friedman asked what is the Hanf number for Scott sentences of computable structures. We show that the value is  $\beth_{\omega_1}^{CK}$ . The same argument proves that  $\beth_{\omega_1}^{CK}$  is the Hanf number for Scott sentences of hyperarithmetical structures. (Received September 06, 2018)