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**Lynn C. Scow\*** (lynn@math.uic.edu). *Theories without the independence property.*

A first-order theory has the *independence property (IP)* if there is some formula in the language of the theory that defines a random graph relation on tuples from any saturated enough model of the theory. In [Laskowski, 1992], it was shown that a theory fails to have the independence property just in case any uniformly definable class of subsets is a Vapnik-Chervonenkis class. Given a set  $X$ , a class of subsets  $\mathcal{C}$  is a *Vapnik-Chervonenkis class* if for any finite set  $F \subset X$ , intersections  $C \cap F$  with  $C \in \mathcal{C}$  give less than the maximal number of subsets of  $F$ . We will use very homogeneous sequences indexed by ordered graphs in order to characterize this property. (Received August 16, 2011)