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**David W. Kueker\*** ([dwk@math.umd.edu](mailto:dwk@math.umd.edu)), Department of Mathematics, University of Maryland, College Park, MD 20742. *Abstract Elementary Classes and Infinitary Logics.*

We prove a number of results relating abstract elementary classes and classical infinitary logics. The strongest results hold for the finitary abstract elementary classes introduced by Hyttinen and Kesälä. In particular if  $(K, \prec_K)$  is a finitary abstract elementary class we prove the following:

1.  $K$  is closed under  $L_{\infty\omega}$ -elementary equivalence;
2. weak types are complete  $L_{\infty\omega}$ -types;
3. if  $(K, \prec_K)$  is  $\lambda$ -categorical then there is a complete sentence  $\sigma$  of  $L_{\omega_1\omega}$  such that  $K$  and  $Mod(\sigma)$  coincide on structures of cardinality  $\geq \lambda$ .

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