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David W. Kueker* (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 λ -categorical then there is a complete sentence σ of $L_{\omega_1\omega}$ such that K and $Mod(\sigma)$ coincide on structures of cardinality $\geq \lambda$.

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