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Michael C. Laskowski* (mc1@math.umd.edu), Department of Mathematics, University of Maryland, College Park, MD 20782. *Groundedness of infinitary sentences*. Preliminary report.

For a class $K = \text{Mod}(\Phi)$ for $\Phi \in L_{\omega_1, \omega}$, a *potential canonical Scott sentence* is a sentence $\sigma \in L_{\infty, \omega}$ such that, in some forcing extension $V[G]$ in which $\sigma \in L_{\omega_1, \omega}$, there is a countable $M \models \Phi$ whose canonical Scott sentence is σ .

Call such a class K *grounded* if every potential canonical Scott sentence σ for K is the canonical Scott sentence of some N in the ground universe V . Groundedness of K is desirable, as it is typically easier to count the number of canonical Scott sentences than the number of potential canonical Scott sentences, and by results in [URL], the latter number cannot decrease via a Borel embedding.

We discuss examples and non-examples of groundedness.

[URL] D. Ulrich, R. Rast, and M.C. Laskowski, Borel complexity and potential canonical Scott sentences. *Fund. Math.* **239** (2017), no. 2, 101–147. (Received September 11, 2019)