

- ▶ ELLEN HAMMATT, *Lattice embeddings and density in punctual degrees*.
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The study of punctual structures considers what happens to the computation of presentations of structures and their isomorphisms when we forbid the use of unbounded search, that is, when we restrict to primitive recursion. We introduce *punctual degrees* which are degree structures formed by considering the collection of all punctual presentations of a fixed structure under primitive recursive isomorphism. Note that, since the inverse of a primitive recursive function is not necessarily primitive recursive, primitive recursive isomorphism is in fact a reduction rather than an equivalence relation. This gives rise to a new phenomenon not present in computable structure theory and reveals subtle differences in the use of unbounded search. For example, while $(\mathbb{Q}, <)$ is simple in computable structure theory, in the sense that it is computably categorical, it has been found to have remarkably intricate punctual degrees. We discuss recent advances in lattice embeddings in the punctual degrees of $(\mathbb{Q}, <)$ and present a sufficient condition for density in punctual degrees.