

Embedding the Diamond Lattice in the c.e. tt -Degrees with Superhigh Atoms

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Abstract

The notion of superhigh computably enumerable (c.e.) degrees was first introduced by Mohrherr, who proved the existence of incomplete superhigh c.e. degrees and high, but not superhigh, c.e. degrees. Recent research shows that the notion of superhighness is closely related to algorithmic randomness and effective measure theory. Jockusch and Mohrherr proved that the diamond lattice can be embedded into the c.e. tt -degrees preserving 0 and 1 and that the two atoms can be low. In this paper, we prove that the two atoms in such embeddings can also be superhigh.