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Spectra of high n and non-low n degrees

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Abstract

We survey known results on spectra of structures and on spectra of relations on computable structures, asking when the set of all high n degrees can be such a spectrum, and likewise for the set of non-low n degrees. We then repeat these questions specifically for linear orders and for relations on the computable dense linear order \mathbb{Q} . New results include realizations of the set of non-low n Turing degrees as the spectrum of a relation on \mathbb{Q} for all $n \geq 1$, and a realization of the set of all non-low n Turing degrees as the spectrum of a linear order whenever $n \geq 2$. The state of current knowledge is summarized in a table in the concluding section. © 2010 The Author. Published by Oxford University Press. All rights reserved.

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Keywords

Computability, computable model theory, linear order, relation, spectrum