COMPUTABLY ENUMERABLE EQUIVALENCE RELATIONS

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We survey some recent literature on computably enumerable equivalence relations (ccers), with emphasis on their structure under computable reducibility $\leq$, where, given a pair of equivalence relations on the natural numbers, we say that $R \leq S$ if there exists a computable function f such that $x \ R \ y$ if and only if $f(x) \ S \ f(y)$, for all numbers x, y. In particular the talk will address the following topics: the structure of the poset of ceers under this reducibility; the ceers that are universal under $\leq$; properties of special interest for ceers (precompleteness, uniformly finitely precompleteness, e-completeness, weakly precompleteness, effectively inseparability, uniformly effectively inseparability), and their applications; properties of the halting jump operation on ceers; index sets of classes of ceers of special interest.

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