▸ PATRICK UFTRING, *Computable transformations of Turing degrees.*
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Following a conjecture by Vasco Brattka, we present a new result that fully characterizes all partial, multi-valued functions on the Turing degrees that have computable realizers. To be precise, for any n-ary such function $f : \mathcal{D}^n \rightrightarrows \mathcal{D}$, there is a set $N \subseteq n$ such that $\bigvee_{i \in N} \mathbf{a}_i \in f(\mathbf{a}_0, \dots, \mathbf{a}_{n-1})$ holds for any tuple of Turing degrees $(\mathbf{a}_0, \dots, \mathbf{a}_{n-1}) \in \mathsf{dom}(f)$. This yields short proofs of established results such as [2, Proposition 11.5] ("The inverse of the Turing jump is not computable.") but also answers open questions such as "Are two applications of PA reducible to a single instance?" (private communication with Vasco Brattka, cf. [1, Proposition 38]). We also present an infinitary variant, which can e.g. be applied to Weihrauch reductions involving infinite suborders of Turing degrees and answers [1, Conjecture 37].

[1] Vasco Brattka, *Loops, Inverse Limits and Non-Determinism*, arXiv:2501.17734, pp. 1–18.

[2] Vasco Brattka, Matthew Hendtlass, Alexander P. Kreuzer, *On the Uniform Computational Content of Computability Theory*, ***Theory of Computing Systems***, vol. 61 (2017), no. 4, pp. 1376–1426.