▸ MAXIM ZUBKOV, *Strongly η-representable sets and limitwise monotonic functions.*
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We consider strongly η-representable sets. An infinite set $A = \{a_0 < a_1 < \dots\}$ is called *η-representable*, if there is a computable linear order L of the order type $\eta + a_0 + \eta + a_1 + \eta + \dots$, where η is the order type of rationals $\mathbb{Q}$. R. Downey [1] stated the question of a description of Turing degrees with strongly η-representable sets. For details see [1] and [2]. We proved that any Turing degree contains a strongly η-representable set iff it contains a range of a $\mathbf{0}'$-limitwise monotonic and pseudo increasing on $\mathbb{Q}$ function. A function F is *$\mathbf{0}'$-limitwise monotonic*, if there is a $\mathbf{0}'$-computable function $f : \mathbb{Q} \times \omega \to \omega$ such that $F(x) = \lim_s f_s(x, s)$ and $f(x, s) \leq f(x, s+1)$. A function F is *pseudo increasing on* $\mathbb{Q}$, if it is increasing on the support of F. A support of F is $\{q \in \mathbb{Q} \mid F(x) > 1\}$.

[1] Downey R. G., *Computability theory and linear orderings*, ***Handbook of computable algebra***, vol. 2 (1998), Amsterdam: Elsevier, pp. 823–976.

[2] Harris K., *η-representations of sets and degrees*, ***Journal of Symbolic Logic***, vol. 73 (2008), pp. 1097–1121.