▸ CHRIS LASKOWSKI AND CHRISTOPHER SHAW*, *Definable choice for a class of weakly o-minimal structures.*
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Given that any o-minimal densely ordered group has full definable choice (namely, definable Skolem functions and uniform elimination of imaginaries), it is a natural question to ask whether this can be achieved in the weakly o-minimal setting. We examine the case of a structure $\mathcal{M}'$ obtained by adding a new convex predicate to an o-minimal structure $\mathcal{M}$. If the new predicate is interpreted by a convex set whose endpoints lie outside of $M \cup \{\pm\infty\}$, then the resulting structure is properly weakly o-minimal and has a weakly o-minimal theory. We show that in this case, definable Skolem functions are present precisely when $\mathcal{M}'$ is valuational (as defined in [3]). Together with a simple application of compactness, this yields the result that no such structure may have full definable choice.

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[2] L. van den Dries, *T-convexity and tame extensions II*, ***Journal of Symbolic Logic***, vol. 62 (1997), no. 1, pp. 14–34.

[3] D. MacPherson, D. Marker, and C. Steinhorn, *Weakly o-minimal structures and real closed fields*, ***Transactions of the American Mathematical Society***, vol. 352 (2000), no. 12, pp. 5435–5483.

[4] D. Marker, *Omitting types in $\mathcal{O}$-minimal theories*, ***Journal of Symbolic Logic***, vol. 51 (1986), no. 1, pp. 63–74.