The Class of Neat Reducts is Not Elementary

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We solve a problem of Tarski, and his co-authors Andréka, Henkin, Monk, and Németi [1]. We will show that for any pair of ordinals $1 < \alpha < \beta$, the class of α-dimensional neat reducts of β-dimensional cylindric algebras is not elementary.

[1] Henkin, L., Monk, J. D., Tarski, A., Andréka, H., Németi, I.: Cylindric Set Algebras. Lecture Notes in Mathematics Vol 881, Springer-Verlag, 1981.

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