FREE GROUP OF HAMEL FUNCTIONS

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Given a function $f : \mathbb{R} \to \mathbb{R}$ we say that f is a Hamel function if it is a $\mathbb{Q}$-basis of the linear space $\mathbb{R}^2$. In paper [1] Authors provided constructions of some Hamel functions with additional properties. Among others, they have constructed a Hamel autobijection of $\mathbb{R}$. Developing their ideas we have constructed a free group of $\mathfrak{c}$ generators of Hamel autobijections of $\mathbb{R}$. During my talk I will cite the basic tools which we used, sketch the construction of such a free group and sum up with some open questions. This is a joint work with M. Pawlikowski, Sz. Smolarek and J. Swaczyna.

References

[1] G. Matusik, T. Natkaniec, Algebraic properties of Hamel functions, Acta Math. Hungar., 126 (3), 2010, 209-229.