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## Free group of Hamel bijections

Joint work with M. Pawlikowski, Sz. Smolarek and J. Swaczyna

Given a function  $f: \mathbb{R} \rightarrow \mathbb{R}$  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.

- [1] Matusik, G., Natkaniec, T., Algebraic properties of Hamel functions. Acta Math. Hungar, Vol. 126 No. 3 (2010), 209–229.