EXISTENCE OF STABLE SOLUTIONS TO $(-\Delta)^m u = e^u$ IN $\mathbb{R}^N$ WITH $m \geq 3$ AND $N > 2m$

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Abstract. We consider the polyharmonic equation $(-\Delta)^m u = e^u$ in $\mathbb{R}^N$ with $m \geq 3$ and $N > 2m$. We prove the existence of many entire stable solutions. This answers some questions raised by Farina and Ferrero’s work.

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