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Bubbling solutions for an elliptic equation with exponential Neumann data in $\mathbb{R}^2$

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Abstract. Let Ω be a bounded domain in $\mathbb{R}^2$ with smooth boundary; we study the following Neumann problem

$$\begin{cases} -\Delta u + u = 0 & \text{in } \Omega \\ \dfrac{\partial u}{\partial \nu} = \lambda u^{p-1} e^{u^p} & \text{on } \partial\Omega, \end{cases} \tag{0.1}$$

where ν is the outer normal vector of $\partial\Omega$, $\lambda > 0$ is a small parameter and $0 < p < 2$. We construct bubbling solutions to problem (0.1) by a Lyapunov-Schmidt reduction procedure.

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