



SEMINÁRIO DE EQUAÇÕES DIFERENCIAIS

Semiclassical states of N -Laplacian problems with a general Trudinger-Moser critical nonlinearity in \mathbb{R}^N

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Abstract: We discuss the following singularly perturbed problem

$$-\varepsilon^N \Delta_N u + V(x)|u|^{N-2}u = f(u), \quad u(x) > 0 \text{ in } \mathbb{R}^N,$$

where $N \geq 2$ and $\Delta_N u$ is the N -Laplacian operator. By using the truncation approach, we construct a single-peak and multi-peak solutions which concentrate around any given isolated positive local minimum components of V as $\varepsilon \rightarrow 0$. In particular, the *monotonicity* of $f(s)/|s|^{N-1}$ and the *Ambrosetti-Rabinowitz* condition are not required.

This is joint work with D. Cassani, J. M. do Ó and O. H. Miyagaki.