

Multiple solutions for the pure critical exponent problem

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We consider the problem $-\Delta u = |u|^{2^*-2}u$ in Ω , $u = 0$ on $\partial\Omega$, where Ω is a bounded smooth domain in \mathbb{R}^N , $N \geq 3$, and $2^* = \frac{2N}{N-2}$ is the critical Sobolev exponent. We present some recent multiplicity results for positive and nodal solutions to this problem, which extend some previous results of Coron, Dancer, Ding and Passaseo. This is joint work with Tobias Weth.