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Some unexpected Liouville theorems
for a semilinear biharmonic equation

We present some unexpected Liouville theorems for a class of biharmonic equation of the type:

$$\Delta^2 u + f(u) = 0, \quad \text{on } \mathbb{R}^N, N > 4,$$

where f satisfies $f(t)t \geq c|t|^{q+1}$ for any $t \in \mathbb{R}$ and some $q > 1$ and $c > 0$.

No assumption on the sign of the possible distributional solutions is assumed.