Quasilinear elliptic problems under asymptotically linear conditions at infinity and at the origin
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( about a work with Marcelo F. Furtado and Edcarlos D. Silva)

We obtain existence of a solution for the quasilinear Schrödinger equation
\[-\Delta u + V(x)u - \Delta (u^2)u = g(x, u), x \in \mathbb{R}^n,\]
where $V$ is a positive potential and the nonlinearity $g(x, t)$ behaves like $t$ at the origin and like $t^3$ at infinity. In the proof, we apply a changing of variables besides variational methods. The solution belongs to $W^{1,2}(\mathbb{R}^n)$. 