Problem No. 1270, Elemente der Mathematik No. 4/2008 Proposed by Vicențiu Rădulescu Institute of Mathematics "Simion Stoilow" of the Romanian Academy &

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Prove that there does not exist a positive twice differentiable function f defined on $[0, \infty)$ such that $f(x)f''(x) + 1 \leq 0$ for all $x \geq 0$.