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Title: Critical exponent for a parabolic problem with variable exponent

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Abstract: We consider a parabolic problem $u_t - \Delta u = F(x,t)$ on $\Omega \times (0,T)$, where $F(x,t) = f(t)u^{p(x)}$, $f \in C[0,\infty), p \in C(\overline{\Omega})$ and Ω is either bounded or unbounded domain. We determine some conditions that guarantee the global (and non global) existence of nonnegative solutions of this problem. The results extend classical results about critical exponent for parabolic problems.

References

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