## Singularly non-autonomous semilinear parabolic problems with critical exponents

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Abstract. In this work we consider initial value problems of the form

$$\begin{cases} \frac{dx}{dt} + A(t)x = f(t, x)\\ x(\tau) = x_0, \end{cases}$$

in a Banach space X where  $A(t) : D \subset X \to X$  is a linear, closed and unbounded operator which is sectorial for each t. We show local well posedness for the case when the nonlinearity f grows critically. Applications to semilinear parabolic equations and strongly damped wave equations are considered. This is a joint work with Alexandre N. Carvalho.