

Problem 24

Consider the initial value problem

$$5u'' + 2u' + 7u = 0, \quad u(0) = 2, \quad u'(0) = 1.$$

- (a) Find the solution $u(t)$ of this problem.
- (b) Find the smallest T such that $|u(t)| \leq 0.1$ for all $t > T$.