Existence and Multiplicity of Positive Solutions for Singular Semipositone \( p \)-Laplacian Equations

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Abstract. Positive solutions are obtained for the boundary value problem

\[
\begin{aligned}
- (|u'|^{p-2} u')' &= \lambda f(t, u), \quad t \in (0, 1), \quad p > 1 \\
 u(0) &= u(1) = 0.
\end{aligned}
\]

Here \( f(t, u) \geq -M \) (\( M \) is a positive constant) for \((t, u) \in [0, 1] \times (0, \infty)\). We will show the existence of two positive solutions by using degree theory together with the upper-lower solution method.