

# Multiple positive solutions of a one-dimensional curvature problem

Patrick Habets  
Université Catholique de Louvain  
BELGIUM

---

## Abstract

We discuss existence, non-existence and multiplicity of positive solutions for the one-dimensional prescribed curvature problem

$$-\left(\frac{u'}{\sqrt{1+u'^2}}\right)' = \lambda a(t)u^p + \mu b(t)u^q \text{ in } [0, 1], \quad u(0) = u(1) = 0,$$

where  $a, b : [0, 1] \rightarrow \mathbb{R}$  are positive continuous functions, under suitable configurations of the exponents  $p, q$  and the parameters  $\lambda, \mu$ .

---