

Example 8.3.2 Nonlinear multiple-point BVP with multiple solutions

Consider a nonlinear three-point boundary value problem governed by

$$u'''' = \beta z(1 + u^2), \quad u(0) = u'(1) = u''(1) = 0, \quad u''(0) = u''(\alpha),$$

where $\alpha \in (0,1)$ and β are given constants. This equation has **two** solutions as shown below, which can be found out by means of the **BVPh 1.0**.

