

USE OF THE WEIGHTED RESIDUALS METHOD IN DISPLACEMENT OF BEAMS

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- **ABSTRACT:** Many phenomena in physics, engineering and other areas of science are interpreted and assessed by means of differential equations. In the mechanics of deformable solids, the determination of displacements in beams requires the resolution of ordinary differential equations, being the FEM and the FDM the Numerical strategies more used. This paper presents and employ three versions of the Weighted Residuals Method in a problem of beam, with known analytical solution, allowing assess the accuracy of both.
- **KEYWORDS:** Beams; weighted residuals method; Galerkin method; collocation method; least squares method.

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