Abstract

Fuzzy finite element analysis for static displacements of beam structures with fuzzy forces is considered in this paper. The material properties of the beams are taken as crisp. Fuzzy finite element analysis of static problem for the above structures converts the problem into fuzzy system of linear equations. As such the coefficient matrix and the right hand side vector become crisp and fuzzy respectively. Here, a new method is proposed to solve the fuzzy system of linear equations. Numerical results for the beam structures are presented to illustrate the computational aspects of the developed method. The results obtained by the proposed method are compared with the existing solution method.

References

- C. C. Antonio, and L. N. Hoffbauer, "Uncertainty propagation in inverse..."


Index Terms

Computer Science  Fuzzy Systems
Keywords

- Triangular fuzzy number
- Fuzzy system of linear equations
- Fuzzy finite element method
- Beam