Zhao, Yichun; Yang, Gaunghong

The authors generalize Browder's subcontinuous $(S)_+^*$ mappings, they introduce $(S)_+^*$ and quasi-$(S)_+^*$ mappings. Especially, the class of quasi-$(S)_+^*$ mappings includes $(S)_+^*$ and quasi-bounded generalized pseudo-monotone mappings, etc. By use of Galerkin approximation, they define the topological degree for weak-subcontinuous $(S)_+^*$ mappings, they found topological degree of finite-continuous quasi-$(S)_+^*$ mappings. This topological degree keeps most fundamental properties of elementary topological degree and gives some effective methods to study some different monotone-type operators

Reviewer: Ling Yongxiang (Beijing)

MSC:
47H11 Degree theory for nonlinear operators
46H15 Representations of topological algebras
47J25 Iterative procedures involving nonlinear operators
65J15 Numerical solutions to equations with nonlinear operators

Keywords:
Browder’s subcontinuous $(S)_+^*$ mappings; quasi-$(S)_+^*$ mappings; quasi-bounded generalized pseudo-monotone mappings; Galerkin approximation; topological degree for weak-subcontinuous $(S)_+^*$ mappings