

Zhao, Yichun; Yang, Gaunghong**The generalized topological degree for nonlinear mappings of monotone type.** (Chinese)

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Chin. Ann. Math., Ser. A 10, No. 1, 77-81 (1989).

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

Cited in **1** Review
Cited in **1** Document**Keywords:**

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