

**Lakshmikantham, V.; Ćirić, Ljubomir**

**Coupled fixed point theorems for nonlinear contractions in partially ordered metric spaces.**

(English) [Zbl 1176.54032](#)

*Nonlinear Anal., Theory Methods Appl., Ser. A, Theory Methods* 70, No. 12, 4341-4349 (2009).

The authors introduce the concept of a  $g$ -monotone mapping and prove coupled coincidence and coupled common fixed point theorems for such nonlinear contractive mappings in partially ordered complete metric spaces. The presented theorems are generalizations of the recent fixed point theorems due to *T. G. Bhaskar* and *V. Lakshmikantham* [*Nonlinear Anal., Theory Methods Appl.* 65, No. 7 (A), 1379–1393 (2006; [Zbl 1106.47047](#))] and include several recent developments.

Reviewer: [Yongxiang Li \(Lanzhou\)](#)

**MSC:**

- [54H25](#) Fixed-point and coincidence theorems (topological aspects)
- [54F05](#) Linearly ordered topological spaces, generalized ordered spaces, and partially ordered spaces
- [47H10](#) Fixed-point theorems
- [34B15](#) Nonlinear boundary value problems for ordinary differential equations

Cited in **21** Reviews  
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**Keywords:**

[coupled fixed point](#); [coupled coincidence](#); [coupled common fixed point](#); [partially ordered set](#); [mixed monotone mapping](#)

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