

## On some Common Fixed Point Theorems in Uniform Spaces <sup>1</sup>

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### Abstract

In this paper, we establish some common fixed point theorems in uniform spaces by using a more general contractive condition than those of Aamri and El Moutawakil [1]. Our results not only improve a multitude of common fixed point results in literature but also generalize some of the results of Aamri and El Moutawakil [1].

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### References

- [1] M. Aamri, D. El Moutawakil, *Common Fixed Point Theorems for  $E$ -contractive or  $E$ -expansive Maps in Uniform Spaces*, Acta Math. Acad. Paedagog. Nyházi (N.S.), 20(1), 2004, 83-91.
- [2] V. Berinde, *A priori and a posteriori Error Estimates for a Class of  $\varphi$ -contractions*, Bulletins for Applied and Computing Math., 1999, 183-192.
- [3] V. Berinde, *Iterative Approximation of Fixed Points*, Editura Efemeride, Baia Mare, 2002.
- [4] N. Bourbaki, *Éléments de mathématique. Fasc. II. Livre III: Topologie générale. Chapitre 1: Structures topologiques. Chapitre 2: Structures uniformes. Quatrième édition.*, Actualités Scientifiques et Industrielles, No. 1142, Hermann, Paris, 1965.

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- [5] J. Jachymski, *Fixed Point Theorems for Expansive Mappings*, Math. Japon., 42(1), 1995, 131-136.
- [6] O. Kada, T. Suzuki, W. Takahashi, *Nonconvex Minimization Theorems and Fixed Point Theorems in Complete Metric Spaces*, Math. Japon., 44(2), 1996, 381-391.
- [7] S. M. Kang, *Fixed Points for Expansion Mappings*, Math. Japon., 38(4), 1993, 713-717.
- [8] M. O. Olatinwo, *Some Common Fixed Point Theorems for Selfmappings in Uniform Spaces*, Acta Math. Acad. Paedagog. Nyházi (N.S.), 23, 2007, 47-54.
- [9] B. E. Rhoades, *A Comparison of Various Definitions of Contractive Mappings*, Trans. Amer. Math. Soc., 226, 1977, 257-290.
- [10] J. Rodríguez-Montes, J. A. Charris, *Fixed Points for  $W$ -contractive or  $W$ -expansive Maps in Uniform Spaces: toward a unified approach*, Southwest J. Pure Appl. Math., 1, 2001, 93-101.
- [11] I. A. Rus, *Generalized Contractions and Applications*, Cluj University Press, Cluj-Napoca, 2001.
- [12] I. A. Rus, A. Petrusel, G. Petrusel, *Fixed Point Theory: 1950-2000, Romanian Contributions*, House of the Book of Science, Cluj-Napoca, 2002.
- [13] S. Z. Wang, B. Y. Li, Z. M. Gao, K. Iséki, *Some Fixed Point Theorems on Expansion Mappings*, Math. Japon., 29(4), 1984, 631-636.
- [14] E. Zeidler, *Nonlinear Functional Analysis and its Applications*, Vol. 1, Springer-Verlag, New York, 1986.

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