

W-distance

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In 1996, the Japanese mathematicians Kada, Suzuki and Takahashi introduced the new concept of w-distance on a metric space. They proved a new non convex minimization theorem, and by using this theorem, the authors obtained some generalizations of Caristi's fixed point theorem and Ekeland's ϵ -variational principle. As applications, some fixed point theorems due to Ćirić, Kannan and Subrahmanyam were also deduced. Fundamental results in these directions are the papers of Suzuki and Takahashi. There exists a large literature devoted to this subject.