

## عنوان مقاله:

Designing Interval Type-2 Fuzzy Controllers by Sarsa Learning

## محل انتشار:

بیست و یکمین کنفرانس مهندسی برق ایران (سال: 1392)

تعداد صفحات اصل مقاله: 6

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## خلاصه مقاله:

In this paper, new Interval type-2 fuzzy controllers, which are designed by Sarsa learning, are proposed. The proposed controllers are A2-C0 Takagi-Sugeno-Kang type. Therefore, the antecedent part of rules is formed by fuzzy type-2 sets and the consequent part is comprised of possible actions. In the output processing section of fuzzy type-2 controllers, in addition to, Karnik-Mendel type reducer accompanied by centroid defuzzification, another output processor called BMM method is applied. Consequently, IT2FSL-KM and IT2FSL-BMM are generated. These new controllers are compared with other fuzzy controllers designed by RL methods in truck backing control problem. Simulation results represent the efficiency and effectiveness of proposed controllers in noiseless and noisy environment

## کلمات کلیدی:

Fuzzy Q-learning (FQL), fuzzy Sarsa learning (FSL), interval type-2 fuzzy set (IT2F Set), reinforcement learning (RL), (type-2 fuzzy logic systems (T2FLS

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