

## عنوان مقاله:

(Condition monitoring of engine load using a new model based on adaptive neuro fuzzy inference system (ANFIS)

## محل انتشار:

دومین کنفرانس ملی محاسبات نرم (سال: 1396)

تعداد صفحات اصل مقاله: 10

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## خلاصه مقاله:

Condition monitoring (CM) of engine load is becoming increasingly important in modern maintenance and control systems. As a problem, torque estimation needs intensive efforts and costly sensors or devices such as dynamometer. In this research, a model was proposed based on soft computing technique to estimate ITM285 tractor engine torque using some low cost sensors. Adaptive neuro fuzzy inference system (ANFIS) was used for engine torque estimation, based on the data obtained from some inexpensive sensors including engine speed, fuel mass flow and exhaust gas temperature. Three methods namely grid partitioning (GP), sub-clustering (SC) and fuzzy c-means (FCM) were used to construct the fuzzy inference system (FIS). The results showed that the FCM was the most suitable method for the purpose of engine load condition monitoring. It is concluded that models based on soft computing especially ANFIS are able to estimate the engine torque using data obtained from some inexpensive and accessible sensors

## کلمات کلیدی:

ANFIS, Condition monitoring, Engine torque, Low cost sensor

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