

## عنوان مقاله:

A Neuro-fuzzy modeling tool to predict the photocatalytic activity of nano crystalline TiO<sub>2</sub> films doped by SiO<sub>2</sub>

## محل انتشار:

اولین همایش ملی تکنولوژی های نوین در شیمی و پتروشیمی (سال: 1393)

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## نویسندگان:

Ehsan Rahmani - *Department of Chemical Engineering, Amirkabir University of Technology, Tehran, Iran*

.Dariush Jafari - *Department of Chemical Engineering, Ferdowsi University of Mashhad*

Mohammad Javad Azarhoosh - *Department of Chemical Engineering, Amirkabir University of Technology, Tehran, Iran*

## خلاصه مقاله:

In recent years novel approaches such as adaptive neuro-fuzzy inference system (ANFIS) have been applied to develop predictive models to describe desired processes. It can be claimed that these calculus methods are considered as alternatives for statistical tools. Due to the complexity and the non-linear nature of TiO<sub>2</sub> nanocrystalline film's photocatalytic activity which has been synthesized by sol-gel method, An ANFIS model has been applied to simulate the methyl orange (MO) concentration variations as an index of photocatalytic activity of produced films. The predicted results were compared to the experimental observations. The obtained correlation ( $R^2 > 0.99$ ) shows the excellent agreement between the simulated and the experimental data. Therefore ANFIS approach can be successfully used to model the photocatalytic performance of thin films of TiO<sub>2</sub> doped by SiO<sub>2</sub>.

## کلمات کلیدی:

Photocatalytic activity, Modeling, ANFIS, Sol-gel

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/244559>

