

عنوان مقاله:

Application of adaptive neuro-fuzzy methodology for estimating building energy consumption

محل انتشار:

کنگره بین المللی نوآوری در مهندسی و توسعه تکنولوژی (سال: 1395)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Sareh Naji - *Department of Civil Engineering, Faculty of Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia*

Shahaboddin Shamshirband - *Department of Computer System and Technology, Faculty of Computer Science and Information Technology, University of Malaya, 50603 Kuala Lumpur, Malaysia*

Hossein Basser - *Department of Civil and Environmental Engineering, Amirkabir University of Technology, Tehran, Iran*

Afram Keivani - *Department of Civil Engineering, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

خلاصه مقاله:

The huge demand for energy and construction material has become an issue of great concern recently. The energy usage of buildings accounts for a large percentage of the total primary energy consumption. The total energy requirement of buildings is influenced by various factors, including environmental and climatic conditions, building envelope materials, insulation, etc. In this respect, estimating the operational energy of buildings is potentially helpful for architects and engineers in the early design and construction stages. In this study, the adaptive neuro-fuzzy method estimates the energy consumption of buildings according to the main building envelope parameters, namely material thickness and insulation K-value. Up to 180 simulations using different material thickness values and insulation properties are carried out in Energy Plus software in order to use for estimation. This soft computing methodology is implemented with Matlab/Simulink and the performance is investigated.

کلمات کلیدی:

Energy consumption, Residential buildings, Energy efficiency, Neuro-fuzzy, ANFIS

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/575388>

