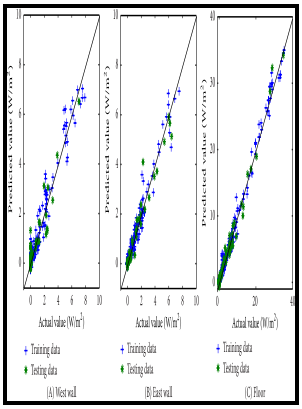
Development of a mathematical model for predicting solar heat gains through building walls and roofs

Pennsylvania State University, College of Engineering, Institute for Building Research - Development of solar heat gain factors database using meteorological data



Description: -
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Air conditioning -- Estimates
Heating -- Costs
Solar heatingdevelopment of a mathematical model for predicting solar heat gains through building walls and roofs
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Better building report -- no. 6development of a mathematical model for predicting solar heat gains through building walls and roofs
Notes: Bibliography: p. 35-37.
This edition was published in 1966

Tags: #Passive #Solar #Home #Design

Review of intelligent building construction: A passive solar architecture approach

Sunspaces serve three main functions -- they provide auxiliary heat, a sunny space to grow plants, and a pleasant living area.

Predicting energy consumption for residential buildings using ANN through parametric modeling

Experienced passive solar home designers plan for summer comfort as well as winter heating.

Development of solar heat gain factors database using meteorological data

During the spring, fall, and cooling season, the windows should be shaded to avoid overheating.

Modified calculation of solar heat gain coefficient in glazing façade buildings

The heat migrates through the wall and radiates into the living space. The results of numerical calculation show that at 12:00 on June 21th, the escaped solar energy ratio is 8.

Review of intelligent building construction: A passive solar architecture approach

Although water stores twice as much heat as masonry materials per cubic foot of volume, water thermal storage requires carefully designed structural support. Although conceptually simple, a successful passive solar home requires that a number of details and variables come into balance.

Review of intelligent building construction: A passive solar architecture approach

Thermal mass in a passive solar home -- commonly concrete, brick, stone, and tile -- absorbs heat from sunlight during the heating season and absorbs heat from warm air in the house during the cooling season.

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