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Forecasting the weather
- ensemble techniques
in probabilistic weather prediction

The measurement and analysis of albedo of roof and pavement in urban area

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Due to the albedo of pavements and roof affect the quantity of direct solar radiation reflected to the sky, the pavement and roof with low albedo value is one of the main factor cause the urban heat island (UHI) effect and the energy consumption of indoors. Therefore, this research focus on the albedo of 4 different pavements (i.e. grass, interlocking blocks, concrete and asphalt) and 5 color steel roof (i.e. while, black, red, green and grey), and conduct experiment on the albedo of materials follows the ASTM Standard E1918 method. The field experiments are conducted in different season and the albedo value of each pavement and roof are calculated. The analytical results indicated that the albedo of the roof and pavements is various by their materials and color. Furthermore, the long-term thermal environment contributed by the different materials is evaluated. The application of the results will help to realize the effect of the albedo of the material which is important for building design and site planning in urban area.