

Ray Tracing to Predict Insolation in Urban Environment

Author(s) - Institution(s):

Vittorio Degli-Esposti, CNIT/BO

Enrico M. Vitucci, CNIT/BO

Leo Capriotti, CNIT/BO

Corresponding author email: enricomaria.vitucci@unibo.it

Corresponding WG group:

WG1

WG2

WG3

Abstract:

An existing Ray Tracing algorithm has been modified to predict the amount of solar radiation incident on the façades of buildings in urban environments. Such algorithm can be exploited to estimate the amount of solar energy turned into heat energy which contributes to the generation of heat islands, or to evaluate the energy efficiency of solutions like photovoltaic panels and solar blinds.