SpeedSim-for-DIVA
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Introduction
This short paper introduce the new GRASSHOPPER [1] plugin named SpeedSim-for DIVA [2] which is a plugin for DIVA-for Rhino version 3 [3]. SpeedSim-for-DIVA (“SpeedSim”) allows you to execute multiple radiance simulations in parallel by using the full processing power of multicore desktops or laptops. The number of parallel simulations can be interactively adjusted according to the user needs or computer capabilities. in addition, SpeedSim processes the results making it easy to evaluate the daylighting performance through different metrics.

SpeedSim performs the required simulations for the daylighting modelling files created by DIVA-for-Rhino plug-in in GRASSHOPPER which are generated by using the (“Write Only”) function in the DIVA Daylight Analysis component. It executes the simulations through GRASSHOPPER native components coupled with C# and VB.NET scripting components.

SpeedSim in Academia
Wagdy and Fathy [4] was the first journal article that used SpeedSim technology before the plugin named “SpeedSim” and became available online for other scholars and professionals. Since then, SpeedSim was successfully implemented in several scientific research papers such as;

- Shaping the slats of hospital patient room window blinds for daylighting and external view under desert clear skies by Sherif, Sabry [5].
- Daylighting simulation for the configuration of external sun-breakers on south oriented windows of hospital patient rooms under a clear desert sky by Wagdy, Sherif [6].
- Parametric Investigation of Brick Extrusion Patterns Using Thermal Simulation by Abdelwahab and Elghazi [7].
- Evaluating visual comfort in open-plan offices: Exploration of simple methods for evaluation and prediction by Garcia-Hansen, Allan [8].
- Evaluating the Daylighting Performance of Dynamic Façades by Using New Annual Climate-Based Metrics by Wagdy, Fathy [9].
- Parametric analysis of solar shading parameters in intermediate orientations located in desert climates by Wagdy, Mokhtar [11]

All these papers can be accessible through the link below:

References


