

## Modeling of Wind Loads on Heliostats Installed in South Algeria of Various Pylon Height

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**Abstract :** Knowledge of wind loads is important to develop a heliostat with good performance. These loads can be calculated by mathematical equations based on several parameters: the density, wind velocity, the aspect ratio of the mirror (height/width) and the coefficient of the height of the tower. Measurement data of the wind velocity and the density of the air are used in a numerical simulation of wind profile that was performed on heliostats with different pylon heights, with  $1\text{m}^2$  mirror areas and with aspect ratio of mirror equal to 1. These measurement data are taken from the meteorological station installed in Ghardaia, Algeria. The main aim of this work is to find a mathematical correlation between the wind loads and the height of the tower.

**Keywords :** heliostat, solar tower power, wind loads simulation, South Algeria

**Conference Title :** ICSREE 2014 : International Conference on Sustainable and Renewable Energy Engineering

**Conference Location :** Montreal, Canada

**Conference Dates :** May 11-12, 2015