Public lightening evaluation by using of genetic algorithm

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Abstract—The abstract goes here.

I. Introduction

This demo file is intended to serve as a "starter file" for IEEE conference papers produced under LaTeX using IEEEtran.cls version 1.7 and later. I wish you the best of success.

mds

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II. Genetic Algorithm

A. Description of the solution

The genetic algorithms are currently well known so only the introduction of the presented solution is further done. Authors chose four parameters to be identified by the algorithm:

- D_X... the distance between the pillars.

- D_Y... overlap of the lamp from the pillar axis. The positive values were considered in the direction getting closer to the sidewalk.

- Z... the pillar high.

- α... the lamp tilt.

The DNA string was made in the order of appearance of each value. The same value limits were chosen for each tested lamp:

$$D_X \in \langle 0.5 \text{ m}, 50 \text{ m} \rangle \tag{1}$$

$$D_Y \in \langle -1 \text{ m}, 1 \text{ m} \rangle \tag{2}$$

$$Z \in \langle 2 \text{ m}, 15 \text{ m} \rangle \tag{3}$$

$$\alpha \in \langle 0°, 20° \rangle \tag{4}$$

The algorithm evaluated the illuminance at the sidewalk of length 200 m and width 3 m. The control area was set in the middle of the sidewalk of the length 80 m.
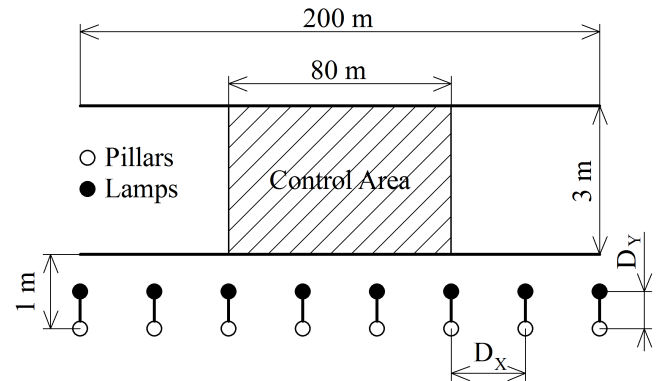

Figure 1. Dimensions of studied sidewalk

B. Fitness function

C. Elitism

III. Result Consideration

IV. Conclusion

The conclusion goes here.

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References

[1] H. Kopka and P. W. Daly, *A Guide to LaTeX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.