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COMPUTER SIMULATION OF LIGHT COMPARED TO REALITY

Keywords: *rendering, v-ray, light, illumination, algorithm*

The paper presents a night illumination of architecture. The main aim of illumination is to create or show an image of an object. This is achieved by means of expression: using light which can show a shape, its surfaces, edges and corners. It can also create the mood of the place. Light is the primary source of spatial information that man receives. This has been proven by the author's own research and confirmed by facts from literature. Geometrical, psychological and physical aspects of this subject are also shown. The article is an attempt to find out what is factual and what is only an illusion when reading space through the analysis of the overall image and its components.

Fig. 1. An example of the same part of elevation illuminated in a different way.

The images were generated using V-ray for Sketchup, a specialised software for photorealistic rendering. The question has been raised if computer software really simulates the propagation of light or only imitates the effect. The multiplicity of applied solutions even within one computer programme may indicate the difference between a computer and phenomena in physics or the nature of modern science. The methods of rendering are based on the latest achievements in science. The deterministic Monte Carlo method is shown. The greatest attention has been paid to the algorithms used to simulate light, which is a compromise between knowledge, capabilities and human needs.

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