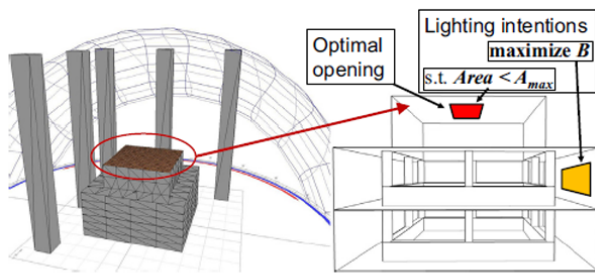


Inverse Opening Design with Anisotropic Lighting Incidence

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In architectural design, configuring opening shapes is a crucial element of daylight analysis. In this paper we present a new method which optimizes opening shapes to meet specified lighting design purposes. This novel approach treats the problem as an inverse lighting problem considering global illumination contributions and anisotropic lighting incidence, therefore any kind of sky distribution can be used as an external source of light. The key to our technique is in exploiting coherence to formulate a compact representation that can be tailored to optimization processes. The resulting reduction in processing time

and efficiency in achieving optimal shapes along with the feasibility of dealing with an isotropic light sources are our key contributions.