A method of identifying light sources, corresponding system and computer program product

INVENTORS
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DESCRIPTION
This invention discloses a system that analyses the light pattern in indoor environments and provide information about which lights are activated using only images obtained from a camera.

The light sources can be both natural (e.g. sunlight from a window) and artificial so providing a solution that can self-adapt to different environments. The system first records a series of images with prominent light variations and then decomposes such sequence into a set of basis images, depicting each light source alone. These basis images are further used to identify which light source is active in each new image acquired by the system.

APPLICATIONS
Indoor environments, smart lighting systems, illumination estimation

KEYWORDS
Lighting, computer vision, time lapse, RGB-D, optimization, intrinsic image decomposition, non-negative matrix factorization, sparsity, spatial information, dimensionality reduction, specular highlight component, diffuse component

BIBLIOGRAPHIC DATA
A method of view frustum detection, corresponding system and computer program product

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