

Title (en)

METHOD, SYSTEM, AND COMPUTER PROGRAM PRODUCT FOR PROVIDING ILLUMINATION IN COMPUTER GRAPHICS SHADING AND ANIMATION

Title (de)

BELEUCHTUNGSVERFAHREN, -SYSTEM UND -PROGRAMM ZUR VERWENDUNG IN SCHATTIERUNG UND ANIMATION VON GRAPHIKEN

Title (fr)

PROCEDE, SYSTEME ET PRODUIT DE PROGRAMME MACHINE DESTINES A PRODUIRE UN ECLAIRAGE EN OMBRAGE ET EN ANIMATION INFOGRAPHIQUES

Publication

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Application

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Abstract (en)

[origin: WO9916021A1] A method, system, and computer program product are provided that represent complex point and area illumination (pure white or colored) in computer graphics shading and animation. An irradiance vector field table representative of an irradiance field for a scene to be rendered is generated and stored in a texture memory. During rendering, the scene is lit based on irradiance vectors in the irradiance vector field table. For each point being lit, a corresponding irradiance vector is generated from the irradiance vector field table. A vector operation is performed between the irradiance vector and a surface normal for the point to compute an irradiance energy component. The approaches with color illumination are: generating and storing a set of color irradiance vector field tables representative of an irradiance field at respective spectral wavelengths; storing an irradiance vector table and an irradiance color table; or storing an irradiance vector table and an irradiance color for the case of constant color.

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