

Title (en)

ILLUMINATION METHODS AND SYSTEMS FOR IMPROVING IMAGE RESOLUTION OF IMAGING SYSTEMS

Title (de)

BELEUCHTUNGSVERFAHREN UND SYSTEME ZUR VERBESSERUNG DER BILDAUFLÖSUNG VON BILDGEBUNGSSYSTEMEN

Title (fr)

PROCÉDÉS ET SYSTÈMES D'ÉCLAIRAGE POUR OPTIMISER LA RÉOLUTION D'IMAGE DE SYSTÈMES IMAGEURS

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Application

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Abstract (en)

[origin: WO2011087802A2] Method and systems for improving resolution of imaging systems, such as a microscope or a medical ultrasonic scanner, are provided. The resolution of the microscope is improved by reducing direct illumination of unrelated regions of an object under examination. According to an aspect of the present invention, a method is provided to reduce the direct illumination of the unrelated regions in a detectable region such as a cone of light that otherwise could generate substantial noises. In another aspect of the invention, a method is provided that focuses the illumination beams such that the width of the projected beam spot is narrowed, preventing the generation of a large amount of noise. In particular, the width of the illumination beam is narrowed such that the size of the projected illumination beam is smaller than the field of view of the microscope. In another aspect of the invention, a system according to the principles of the present invention is provided, wherein the illumination beam of light is such arranged that the overlap of the path of the illumination beam of light and the detectable region is reduced.

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