

Title (en)  
A DEVICE AND A METHOD FOR SPECKLE-FREE LASER ILLUMINATION

Title (de)  
VORRICHTUNG UND VERFAHREN ZUR SPECKLEFREIEN LASERBELEUCHTUNG

Title (fr)  
DISPOSITIF ET PROCÉDÉ POUR ÉCLAIRAGE LASER SANS TACHE

Publication  
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Application  
**EP 20764808 A 20200615**

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Abstract (en)  
[origin: WO2021257001A1] The invention belongs to the field of laser devices, more precisely to the field of lasers used for illumination. The invention relates to a device and method for generating homogenous illumination with laser light without speckles. The essence of the invention is that, in an all fiber design, the number of mutually non- coherent laser beams is increased in a manner that does not distort the laser pulse shape. The device uses the principle of decoupling laser light from a common channel to two or more channels and back to the common channel resulting in decreased coherency consequently allowing homogenous illumination without speckles. The device comprises: - at least one light source producing a laser beam, - at least one laser beam multiplier comprising a suitable number of optical fibers, wherein the said multipliers comprise means for separating laser beam into two or more channels and means for combining the separated channel into one common channel, - and an output for emitting the output speckle-free laser beam/light for illumination.

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