

Title (en)  
PULSED UV AND VISIBLE RAMAN LASER SYSTEMS

Title (de)  
LASERSYSTEME MIT GEPULSTEM UV UND SICHTBAREM RAMAN

Title (fr)  
SYSTEMES PULSES DE LASER RAMAN DANS L'ULTRAVIOLET ET LA LUMIERE VISIBLE

Publication  
**EP 2013951 A4 20110803 (EN)**

Application  
**EP 07776322 A 20070426**

Priority  

- US 2007010208 W 20070426
- US 79591506 P 20060428
- US 81052006 P 20060602

Abstract (en)  
[origin: WO2007127356A2] A laser system comprising: (i) a pulsed light source generating a pulsed light having an optical spectrum centered at a source wavelength; (ii) a Raman conversion fiber coupled to the pulsed light source, wherein the pulsed light traverses the nonlinear Raman conversion fiber and is converted by a cascaded Stimulated Raman Scattering process into a first pulsed light output corresponding to last Stokes order and having an optical spectrum centered at a first output wavelength which is longer than the source wavelength; and (iii) a harmonic generator operatively coupled to said a Raman conversion fiber to accept the first pulsed light output order and to convert it to longer optical frequency such that said harmonic generator producing light output in the final output wavelength situated in the 150-775 nm range.

IPC 8 full level  
**H01S 3/30** (2006.01); **H01S 3/10** (2006.01)

CPC (source: EP)  
**H01S 3/302** (2013.01); **H01S 3/005** (2013.01); **H01S 3/06758** (2013.01); **H01S 3/09415** (2013.01); **H01S 3/10015** (2013.01); **H01S 3/10092** (2013.01); **H01S 3/1618** (2013.01); **H01S 3/2375** (2013.01); **H01S 3/2383** (2013.01)

Citation (search report)  

- [X] WO 2006032105 A1 20060330 - UNIV MACQUARIE [AU], et al
- [X] US 2005163426 A1 20050728 - FERMANN MARTIN E [US], et al
- [XP] US 2006161140 A1 20060720 - HAYASHI KENICHI [JP], et al
- [X] EP 1471613 A2 20041027 - NIDEK KK [JP]
- [X] GEORGIEV D ET AL: "Watts-level frequency doubling of a narrow line linearly polarized Raman fiber laser to 589 nm", OPTICS EXPRESS 20050905 OPTICAL SOCIETY OF AMERICA US, vol. 13, no. 18, 5 September 2005 (2005-09-05), pages 6772 - 6776, XP002641544, DOI: 10.1364/OPEX.13.006772
- See references of WO 2007127356A2

Citation (examination)  

- WO 0165647 A2 20010907 - JDS UNIPHASE CORP [US]
- EP 1523075 A2 20050413 - NORTHROP GRUMMAN CORP [US]
- CHAMPERT P A ET AL: "Efficient lasing of Cr<E6>2+</E6>:ZnSe at 2.2 [micro]m pumped by all-fibre-format seeded Raman source", ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 38, no. 10, 9 May 2002 (2002-05-09), pages 448 - 449, XP006018225, ISSN: 0013-5194, DOI: 10.1049/EL:20020319

Cited by  
GB2505409A; GB2505409B; US8929406B2; US9748729B2; US10199149B2; US9935421B2; US10439355B2; US9608399B2; US9804101B2; US10495582B2; US9042006B2; US10175555B2; US10429719B2

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DOCDB simple family (application)  
**US 2007010208 W 20070426**; EP 07776322 A 20070426; JP 2009507817 A 20070426