

## ***ICT publications of Prof. David N. Nikogosyan, made in UCC***

### ***Two-photon absorption in optical materials***

1. P.M.W. Skovgaard, R.J. Mullane, D.N. Nikogosyan, J.G. McInerney: Two-photon conductivity in semiconductor waveguide autocorrelators. *Opt. Commun.*, **153(1–3)**, 78–82 (1998)
2. L.I. Isaenko, A. Dragomir, J.G. McInerney, D.N. Nikogosyan: Anisotropy of two-photon absorption in BBO at 264 nm. *Opt. Commun.*, **198(4–6)**, 433–438 (2001)
3. J. Ni Chroinin, A. Dragomir, J.G. McInerney, D.N. Nikogosyan: Accurate determination of two-photon absorption coefficients in fused silica and crystalline quartz at 264 nm. *Opt. Commun.* **187(1–3)**, 185–191 (2001)
4. A. Dragomir, J.G. McInerney, D.N. Nikogosyan, P.G. Kazansky: Two-photon absorption properties of commercial fused silica and germanosilicate glass at 264 nm. *Appl. Phys. Lett.* **80(7)**, 1114–1116 (2002)
5. A. Dragomir, J.G. McInerney, D.N. Nikogosyan: Femtosecond measurements of two-photon absorption coefficients at  $\lambda = 264$  nm in glasses, crystals, and liquids. *Appl. Opt.* **41(21)**, 4365–4376 (2002)
6. S.A. Slattery, D.N. Nikogosyan: Two-photon absorption at 211 nm in fused silica, crystalline quartz and some alkali halides. *Opt. Commun.* **228(1–3)**, 127–131 (2003)

### ***Fibre grating inscription by femtosecond UV pulses***

1. A. Dragomir, D.N. Nikogosyan, A.A. Ruth, K.A. Zagorulko, P.G. Kryukov: Long-period fibre grating formation with 264 nm femtosecond radiation. *Electron. Lett.* **38(6)**, 269–271 (2002)
2. A. Dragomir, D.N. Nikogosyan, K.A. Zagorulko, P.G. Kryukov: Inscription of long period fibre gratings by femtosecond UV radiation. *Proc. SPIE* **4876**, 313–320 (2003)
3. A. Dragomir, D.N. Nikogosyan, K.A. Zagorulko, P.G. Kryukov, E.M. Dianov: Inscription of fiber Bragg gratings by ultraviolet femtosecond radiation. *Opt. Lett.* **28(22)**, 2171–2173 (2003)
4. P.G. Kryukov, Y.V. Larionov, A.A. Rybaltovskii, K.A. Zagorulko, A. Dragomir, D.N. Nikogosyan, A.A. Ruth: Long-period fibre grating fabrication with femtosecond pulse radiation at different wavelengths. *Microelectr. Eng.*, **69(24)**, 248–255 (2003)
5. K.A. Zagorulko, P.G. Kryukov, E.M. Dianov, A. Dragomir, D.N. Nikogosyan: Fibre-Bragg-grating writing in single-mode optical fibres by UV femtosecond pulses. *Kvant. Elektron.*, **33(8)**, 728–730 (2003) [In Russian, English transl.: *Quant. Electron.*, **33(8)**, 728–730 (2003)]
6. S.A. Slattery, D.N. Nikogosyan, N. Plougmann, H.R. Sørensen, M. Kristensen: Efficient Bragg grating fabrication in Ge-rich fibre by high-intensity femtosecond 264 nm irradiation. *Electron. Lett.* **40(23)**, 1472–1473 (2004)
7. S.A. Slattery, D.N. Nikogosyan, G. Brambilla: Fiber Bragg grating inscription by high-intensity femtosecond UV laser light: comparison with other existing methods of fabrication. *J. Opt. Soc. Am. B* **22(2)**, 354–361 (2005)
8. S.A. Slattery, D.N. Nikogosyan: High-intensity UV laser inscription of fibre Bragg gratings and comparison with other fabrication techniques. *Proc. SPIE* **5827**, 200–210 (2005)
9. A.I. Kalachev, V. Pureur, D.N. Nikogosyan: Investigation of long-period fiber gratings induced by high-intensity femtosecond UV laser pulses. *Opt. Commun.* **246(1–3)**, 107–115 (2005)

10. M. Dubov, I. Bennion, S.A. Slattery, D.N. Nikogosyan: Strong long-period fiber gratings recorded at 352 nm. *Opt. Lett.* **30(19)**, 2533–2535 (2005)
11. S.A. Slattery, D.N. Nikogosyan: Long-period fiber grating inscription under high-intensity 352 nm femtosecond irradiation: three-photon absorption and energy deposition in cladding. *Opt. Commun.* **255(1–3)**, 81–90 (2005)
12. A.I. Kalachev, D.N. Nikogosyan, G. Brambilla: Long-period fiber grating fabrication by high-intensity femtosecond pulses at 211 nm. *J. Lightwave Technol.* **23(8)**, 2568–2578 (2005)
13. D.N. Nikogosyan: Long-period gratings in a standard telecom fibre fabricated by high-intensity femtosecond UV and near-UV laser pulses. *Meas. Sci. Technol.* **17(5)**, 960–967 (2006)
14. D.N. Nikogosyan: Multi-photon high-excitation-energy approach to fibre grating inscription. *Meas. Sci. Technol.*, **18(1)**, R1–R29 (2007)
15. R.P. O'Byrne, S.V. Sergeyev, D.A. Flavin, D.N. Nikogosyan: Strain characterization of fiber Bragg gratings inscribed by high-intensity femtosecond UV pulses. *Proc. SPIE*, **6619**, 661918-1–661918-4 (2007)
16. R.P. O'Byrne, S.V. Sergeyev, D.A. Flavin, S.A. Slattery, D.N. Nikogosyan, J.D.C. Jones: Anisotropic fiber Bragg gratings inscribed by high-intensity femtosecond-UV pulses: Manufacturing technology and strain characterization for sensing applications. *IEEE Sensors J.*, **8(7)**, 1256–1263 (2008)
17. J.-F. Rysman, D.N. Nikogosyan: Accurate measurement of thermal sensitivity for fibre Bragg gratings inscribed by high-intensity 264 nm femtosecond pulses. *Opt. Commun.*, **282(6)**, 1120–1122 (2009)
18. A. Gusarov, B. Brichard, D.N. Nikogosyan: Gamma-radiation effects on Bragg gratings written by femtosecond UV laser in Ge-doped fibers. *IEEE Trans. Nucl. Sci.*, **57(4)**, 2024–2028 (2010)
19. P. Kelleher, D.N. Nikogosyan: Inscription of narrow-band fibre Bragg gratings with 264 nm femtosecond pulses. *Opt. Fiber Technol.*, **16(4)**, 212–216 (2010)
20. B.J. O'Regan, D.N. Nikogosyan: Femtosecond UV long-period grating fabrication with amplitude mask technique. *Opt. Commun.*, **284(24)**, 5650–5654 (2011)
21. K. Mc Evoy, D.N. Nikogosyan: Realization of periodic transmission filter based on a pair of cascaded long-period fibre gratings of different strength/wavelength position. *Opt. Laser Technol.*, **44(3)**, 683–687 (2012)
22. B.J. O'Regan, D.N. Nikogosyan, D. Paipulas, V. Kudriašov, V. Sirutkaitis: Long-period grating inscription in hydrogen-free SMF-28 fiber by high-repetition-rate femtosecond UV pulses. *Opt. Fiber Technol.* **18(2)**, 88–92 (2012)

### ***Long-period gratings in PCF***

1. G. Brambilla, A.A. Fotiadi, S.A. Slattery, D.N. Nikogosyan: Two-photon photochemical long-period grating fabrication in pure-fused-silica photonic crystal fiber. *Opt. Lett.*, **31(18)**, 2675–2677 (2006)
2. C. Caucheteur, A.A. Fotiadi, P. Megret, G. Brambilla, S.A. Slattery, D.N. Nikogosyan: Polarisation properties of long-period grating inscribed in pure-fused-silica photonic crystal fibre. *Electron. Lett.*, **42(23)**, 1339–1340 (2006)
3. A.A. Fotiadi, G. Brambilla, T. Ernst, S.A. Slattery, D.N. Nikogosyan: TPA-induced long-period gratings in photonic crystal fiber: inscription and temperature sensing properties. *J. Opt. Soc. Am. B* **24(7)**, 1475–1481 (2007)

### ***Recording of nanostructures in bulk fused silica***

1. M. Dubov, V. Mezentsev, I. Bennion, D.N. Nikogosyan: UV femtosecond laser inscribes a 300 nm period nanostructure in a pure fused silica. *Meas. Sci. Technol.*, **18(7)**, L15–L17 (2007)
2. M. Dubov, I. Bennion, D.N. Nikogosyan, P. Bolger, A.V. Zayats: Point-by-point inscription of 250-nm-period structure in bulk fused silica by tightly-focused femtosecond UV pulses. *J. Opt. A: Pure Appl. Opt.*, **10(2)**, article 025305 (6pp) (2008)
3. M. Dubov, R.K. Nasyrov, D.N. Nikogosyan, A.G. Poleshchuk, V.K. Mezentsev, I. Bennion: Micro-holographic methods for sub-micrometer grating fabrication with UV femtosecond laser. *Proc. SPIE*, **7100**, 71000T-1–71000T-9 (2008)
4. D.N. Nikogosyan, M. Dubov, H. Schmitz, V. Mezentsev, I. Bennion, P. Bolger, A.V. Zayats: Point-by-point inscription of 250-nm-period structure in bulk fused silica by tightly-focused femtosecond UV pulses: experiment and numerical modeling. *Central European Journal of Physics*, **8(2)**, 169–177 (2010)

### ***Polarization properties of fibre gratings***

1. C. Caucheteur, A. Fotiadi, P. Megret, S.A. Slattery, D.N. Nikogosyan: Polarization properties of long-period gratings prepared by high-intensity femtosecond 352 nm pulses. *Photon. Technol. Lett.* **17(11)**, 2346–2348 (2005)
2. S.A. Slattery, D.N. Nikogosyan, C. Caucheteur, A. Fotiadi, P. Mégret: Polarization properties of long-period gratings prepared by high-intensity femtosecond 352 nm pulses. *Proc. SPIE*, **6187**, 6187071–6187078 (2006)
3. C. Caucheteur, P. Megret, T. Ernst, D.N. Nikogosyan. Polarization properties of fibre Bragg gratings inscribed by high-intensity femtosecond 264 nm pulses. *Opt. Commun.*, **271(2)**, 303–308 (2007)
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### ***Fibre photosensitivity and UV poling***

1. A. Dragomir, D.N. Nikogosyan, G. Brambilla: Increased photosensitivity of Ge-doped and Ge, Sn-doped fibres under high-intensity 264 nm laser light. *Electron. Lett.*, **39(20)**, 1437–1438 (2003)
2. C. Corbari, P.G. Kazansky, S.A. Slattery, D.N. Nikogosyan: Ultraviolet poling of pure fused silica by high-intensity femtosecond radiation. *Appl. Phys. Lett.* **86(7)**, article 071106 (2005)
3. V. Kudriasov, D. Majus, V. Sirutkaitis, S.A. Slattery, D.N. Nikogosyan: Comparative study of UV absorption changes induced in germanosilicate glass by high-intensity femtosecond pulses at 267, 400 and 800 nm. *Opt. Commun.*, **271(2)**, 408–412 (2007)
4. T. Ernst, D.N. Nikogosyan: Single-quantum mechanism of Bragg grating inscription in a Ge/B codoped fibre by high-intensity 264 nm femtosecond pulses. *Meas. Sci. Technol.*, **18(1)**, L1–L3 (2007)
5. H.G. Limberger, C. Ban, R.P. Salathé, S.A. Slattery, D.N. Nikogosyan: Absence of UV-induced stress in Bragg gratings recorded by high-intensity 264 nm laser pulses in a hydrogenated standard telecom fiber. *Opt. Express*, **15(9)**, 5610–5615 (2007)