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## Bibliography

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- [1] K.S. Song and R.T. Williams. Self-Trapped Excitons. Solid-State Sciences. Springer-Verlag, 1998.
- [2] S.S. Mao, F. Quéré, S. Guizard, X. Mao, R.E. Russo, G. Petite, and P. Martin. Dynamics of femtosecond laser interactions with dielectrics. Applied Physics A, 79:1695–1709, 2004.
- [3] Alfredo Pasquarello and Roberto Car. Identification of raman defect lines as signatures of ring structures in vitreous silica. Physical Review Letters, 80(23):5145–5147, 1998.
- [4] C. Hnatovsky, R.S. Taylor, E. Simova, V.R. Bhardwaj, D. M. Rayner, and P.B. Corkum. High-resolution study of photoinduced modification in fused silica produced by a tightly focused femtosecond laser beam in the presence of aberrations. Journal of Applied Physics, 98:013517, 2005.
- [5] Nikon website. <http://www.microscopyu.com>.
- [6] Olympus website. <http://www.olympusmicro.com>.
- [7] P. Audebert, Philippe Daguzan, A. Dos Santos, J.C. Gauthier, J.P. Geindre, S. Guizard, G. Hamoniaux, K. Krastev, P. Martin, G. Petite, and A. Antonetti. Space-time observation of an electron gas in SiO<sub>2</sub>. Physical Review Letters, 73(14):1990–1993, 1994.
- [8] Masaaki Sakakura and Masahide Terazima. Initial temporal and spatial changes of the refractive index induced by focused femtosecond pulsed laser irradiation inside a glass. Physical Review B, 71:024113, 2005.

- 
- [9] Nicolas Sanner. Mise en forme programmable de faisceau laser femtoseconde pour le micro-usinage et la photoinscription de guides d'ondes. PhD thesis, Université Jean Monnet, 2005.
- [10] A.G. Okhrimchuk, A.V. Shestakov, I. Khrushchev, and J. Mitchell. Depressed cladding, buried waveguide laser formed in a YAG:Nd<sup>3+</sup> crystal by femtosecond laser writing. Optics Letters, 30(17):2248–2250, 2005.
- [11] J.-C. Diels and W. Rudolph. Ultrashort Laser Pulse Phenomena. Academic Press, 1 edition, 1996.
- [12] Y.R. Shen. The principles of Nonlinear Optics. John Wiley and sons, New York, 1984.
- [13] Chris B. Schaffer. Interaction of Femtosecond Laser Pulses with Transparent Materials. PhD thesis, Harvard, 2001.
- [14] A.J. Taylor, G. Rodriguez, and Tracy Sharp Clement. Determination of  $n_2$  by direct measurement of the optical phase. Optics Letters, 21(22):1812–1814, 1996.
- [15] J. H. Marburger. Self-focusing: theory. Progress in Quantum Electronics, 4:35–110, 1975.
- [16] Gadi Fibich and Alexander L. Gaeta. Critical power for self-focusing in bulk media and in hollow waveguides. Optics Letters, 25(5):335–337, 2000.
- [17] R.W. Boyd. Nonlinear Optics. Harcourt Brace Jovanovich Publishers, 1992.
- [18] Jinendra K. Ranka, Robert W. Schirmer, and Alexander L. Gaeta. Observation of pulse splitting in nonlinear dispersive media. Physical Review Letters, 77(18):3783, 1996.
- [19] L. Sudrie, M. Franco, B. Prade, and A. Mysyrowicz. Study of damage in fused silica induced by ultra-short ir laser pulses. Optics Communications, 191:333–339, 2001.
- [20] C.H. Fan, J. Sun, and J.P. Longtin. Plasma absorption of femtosecond laser pulses in dielectrics. Journal of Heat Transfer, 124:275–283, 2002.
- [21] Chris B Schaffer, André Brodeur, and Eric Mazur. Laser-induced breakdown and damage in bulk transparent materials induced by tightly focused femtosecond laser pulses. Measurement Science and Technology, 12:1784, 2001.
- [22] L.V. Keldysh. Ionization in the field of a strong electromagnetic wave. Sov. Phys. JETP, 20:1307, 1965.

- 
- [23] A. Couairon, L. Sudrie, M. Franco, B. Prade, and A. Mysyrowicz. Filamentation and damage in fused silica induced by tightly focused femtosecond laser pulses. Physical Review B, 71:125435, 2005.
- [24] M. Lenzner, J. Krüger, S. Sartania, Z. Cheng, Ch. Spielmann, G. Mourou, W. Kautek, and F. Krausz. Femtosecond optical breakdown in dielectrics. Physical Review Letters, 80(18):4076–4079, 1998.
- [25] B.C. Stuart, M.D. Feit, S. Herman, A.M. Rubenchik, B.W. Shore, and M.D. Perry. Nanosecond-to-femtosecond laser-induced breakdown in dielectrics. Physical Review B, 53(4):1749, 1996.
- [26] B. Rethfeld. Unified model for the free-electron avalanche in laser-irradiated dielectrics. Physical Review Letters, 92(18):187401, 2004.
- [27] A. Kaiser, B. Rethfeld, M. Vicanek, and G. Simon. Microscopic processes in dielectrics under irradiation by subpicosecond laser pulses. Physical Review B, 61(17):11437–11450, 2000.
- [28] F. Quéré. Etude des mécanismes d’excitation électronique associés au claquage des diélectriques induit par un champ laser intense. PhD thesis, Université Paris VI, 2000.
- [29] F. Quéré, P. Martin, and S. Guizard. Optical breakdown under strong ultrafast laser field. Laser Physics, 11(2):231, 2001.
- [30] Max Born and Emil Wolf. Principle of Optics. Cambridge University Press, London, 7th edition, 2005.
- [31] K. Sokolowski-Tinten and D. von der Linde. Generation of dense electron-hole plasmas in silicon. Physical Review B, 61(4):2641–2650, 2000.
- [32] Rolf E. Hummel. Electronic Properties of Materials. Springer Science, New York, 3rd edition, 2001.
- [33] Eli Yablonovitch and N. Bloembergen. Avalanche ionization and the limiting diameter of filaments induced by light pulses in transparent media. Physical Review Letters, 29(14):907–910, 1972.
- [34] I. M. Burakov, N.M. Bulgakova, R. Stoian, A. Mermillod-Blondin, E. Audouard, A. Rosenfeld, A. Husakou, and I.V. Hertel. Spatial distribution of refractive index variations induced in bulk fused silica by single ultrashort and short laser pulses. Journal of Applied Physics, 101(4):043506, 2007.

- 
- [35] Alexandre Mermillod-Blondin, Igor M. Burakov, Razvan Stoian, Arkadi Rosenfeld, Eric Audouard, Nadezhda Bulgakova, and Ingolf V. Hertel. Direct observation of femtosecond laser induced modifications in the bulk of fused silica by phase contrast microscopy. Journal of Laser Micro/Nanoengineering, 1(3), 2006.
- [36] L. Sudrie. Propagation non-linéaire des impulsions laser femtosecondes dans la silice. PhD thesis, Paris XI Orsay, 2002.
- [37] J. Arndt and W. Hummel. The general refractivity formula applied to densified silicate glasses. Physics and Chemistry of Minerals, 15:363–369, 1988.
- [38] A.J. Fisher, W. Hayes, and A.M. Stoneham. Structure of the self-trapped exciton in quartz. Physical Review Letters, 64(22):2667, 1990.
- [39] Peter N. Saeta and Benjamin I. Greene. Primary relaxation processes at the band edge of SiO<sub>2</sub>. Physical Review Letters, 70(23):3588, 1993.
- [40] Takenobu Suzuki, Linards Skuja, Koichi Kajihara, Masahiro Hirano, Toshio Kamiya, and Hideo Hosono. Electronic structure of oxygen dangling bond in glassy SiO<sub>2</sub>: the role of hyperconjugation. Physical Review Letters, 90(18):186404, 2003.
- [41] Eoin P. O’Reilly and John Robertson. Theory of defects in vitreous silicon dioxide. Physical Review B, 27(6):3780–3795, 1983.
- [42] M. A. Stevens Kalceff. Cathodoluminescence microcharacterization of the defect structure of irradiated hydrated and anhydrous fused silicon dioxide. Physical Review B, 57(10):5674–5683, 1998.
- [43] S.O. Kucheyev and S.G. Demos. Optical defects produced in fused silica during laser-induced breakdown. Applied Physics Letters, 82(19):3230–3232, 2003.
- [44] Guillaume Petite, Philippe Daguzan, Stéphane Guizard, and Philippe Martin. Ultrafast processes in laser irradiated wide bandgap insulators. Applied Surface Science, 109/110:36–42, 1997.
- [45] M. Mero, A.J. Sabbah, J. Zeller, and W. Rudolph. Femtosecond dynamics of dielectric films in the pre-ablation regime. Applied Physics A, 81:317–324, 2005.
- [46] S. Sen and J.E. Dickinson. Ab initio molecular dynamics simulation of femtosecond laser-induced structural modification in vitreous silica. Physical Review B, 68:68–73, 2003.

- 
- [47] T. Gorelik, M. Will, S. Nolte, A. Tuennermann, and U. Glatzel. Transmission electron microscopy studies of femtosecond laser induced modifications in quartz. Applied Physics A, 76:309–311, 2003.
- [48] B. Poumellec, L. Sudrie, M. Franco, B. Prade, and A. Mysyrowicz. Femtosecond laser irradiation stress induced in pure silica. Optics Express, 11(9):1070, 2003.
- [49] R.S. Taylor, C. Hnatovsky, E. Simova, D. M. Rayner, V.R. Bhardwaj, and P.B. Corkum. Femtosecond laser fabrication of nanostructures in silica glass. Optics Letters, 28(12):1043, 2003.
- [50] J.W. Chan, T. Huser, S. Risbud, and D.M. Krol. Structural changes in fused silica after exposure to focused femtosecond laser pulses. Optics Letters, 26(21):1721, 2001.
- [51] F. Barmes, L. Soulard, and M. Mareschal. Molecular dynamics of shock-wave induced structural changes in silica glasses. Physical Review B, 73:224108, 2006.
- [52] Liping Huang and John Kieffer. Anomalous thermomechanical properties and laser-induced densification of vitreous silica. Applied Physics Letters, 89:141915, 2006.
- [53] Liping Huang and John Kieffer. Amorphous-amorphous transitions in silica glass. ii. irreversible transitions and densification limit. Physical Review B, 69:224204, 2004.
- [54] L. Douillard and J.P. Duraud. Swift heavy ion amorphization of quartz - a comparative study of the particle amorphization mechanism of quartz. Nuclear Instruments and Methods in Physics Research B, 107:212–217, 1996.
- [55] Qi An, Lianqing Zheng, and Sheng-Nian Luo. Vacancy-induced densification of silica glass. Journal of Non-Crystalline Solids, 352:3320–3325, 2006.
- [56] A.M. Weiner, J.P. Heritage, and J.A. Salehi. Encoding and decoding of femtosecond pulses. Optics Letters, 13:300, 1988.
- [57] A.M. Weiner. Femtosecond pulse shaping using spatial light modulators. Review of Scientific Instruments, 71(5):1929–1960, 2000.
- [58] A. Präkelt, M. Wollenhaupt, Ch. Horn, C. Sarpe-Tudoran, M. Winter, and T. Baumert. Compact, robust, and flexible setup for femtosecond pulse shaping. Review of Scientific Instruments, 74(11):4950–4953, 2003.

- 
- [59] Takasumi Tanabe, Fumihiko Kannari, Frank Korte, Jürgen Koch, and Boris Chichkov. Influence of spatiotemporal coupling induced by an ultrashort laser pulse shaper on a focused beam profile. Applied Optics, 44(6):1092–1098, 2005.
- [60] F. Korte, S. Nolte, B.N. Chichkov, T. Bauer, G. Kamlage, T. Wagner, C. Fallnich, and H. Welling. Far-field and near-field material processing with femtosecond laser pulses. Applied Physics A, 69 [Suppl.]:S7–S11, 1999.
- [61] Jonathan Benjamin Ashcom. The role of focusing in the interaction of femtosecond laser pulses with transparent materials. PhD thesis, Harvard, 2003.
- [62] S. Juodkazis, K. Nishimura, S. Tanaka, H. Misawa, E.G. Gamaly, B. Luther-Davies, L. Hallo, P. Nicolai, and V.T. Tikhonchuk. Laser-induced microexplosion confined in the bulk of a sapphire crystal: Evidence of multimegabar pressures. Physical Review Letters, 96:166101, 2006.
- [63] P. Török, P. Varga, Z. Laczik, and G.R. Booker. Electromagnetic diffraction of light focused through a planar interface between materials of mismatched refractive indices: an integral representation. J. Opt. Soc. Am. A, 12(2):325, 1995.
- [64] S.H. Wiersma, P. Török, T.D. Visser, and P. Varga. Comparison of different theories for focusing through a plane interface. J. Opt. Soc. Am. A, 14(7):1482, 1997.
- [65] D. Liu, Y. Li, R. An, Y. Dou, H. Yang, and Q. Gong. Influence of focusing depth on the microfabrication of waveguides inside silica glass by femtosecond laser direct writing. Applied Physics A, 84:257–260, 2006.
- [66] Chris B Schaffer, André Brodeur, José F. Garcia, and Eric Mazur. Micromachining bulk glass by use of femtosecond laser pulses with nanojoule energy. Optics Letters, 26(2):93, 2001.
- [67] A. Salimnia, N.T. Nguyen, S.L. Chin, and R. Vallée. The influence of self-focusing and filamentation on refractive index modifications in fused silica using intense femtosecond pulses. Optics Communications, 241:529–538, 2004.
- [68] S. Nolte, M. Will, J. Burghoff, and A. Tuennermann. Femtosecond waveguide writing: a new avenue to three-dimensional integrated optics. Applied Physics A, 77:109–111, 2003.
- [69] R. Osellame, N. Chiodo, V. Maselli, A. Yin, M. Zavelani-Rossi, G. Cerullo, P. Laporta, L. Aiello, S. De Nicola, P. Ferraro, A. Finizio, and G. Pierattini. Optical properties

- of waveguides written by a 26 MHz stretched cavity ti:sapphire femtosecond oscillator. Optics Express, 13(2):612–620, 2005.
- [70] Kazuhiro Yamada, Wataru Watanabe, Tadamasu Toma, and Kazuyoshi Itoh. In situ observation of photoinduced refractive-index changes in filaments formed in glasses by femtosecond laser pulses. Optics Letters, 26(1):19, 2001.
- [71] D. Marcuse. Refractive index determination by the focusing method. Applied Optics, 18(1):9–13, 1979.
- [72] A. Barty, K. A. Nugent, D. Paganin, and A. Roberts. Quantitative optical phase microscopy. Optics Letters, 23(11):817–819, 1998.
- [73] Maurice Françon. Le microscope à contraste de phase et le microscope interférentiel. Editions du CNRS, Paris, 1954.
- [74] Alva H. Bennett, Harold Osterberg, Helen Jupnik, and Oscar W. Richards. Phase microscopy principles and applications. John Wiley and Sons, Inc., New York, 1951.
- [75] G. Cerullo, R. Osellame, S. Taccheo, M. Marangoni, D. Polli, R. Ramponi, P. Laporta, and S. De Silvestri. Femtosecond micromachining of symmetric waveguides at  $1.5 \mu\text{m}$  by astigmatic beam focusing. Optics Letters, 27(21):1938, 2002.
- [76] J. Siegel, J.M. Fernandez-Navarro, A. Garcia-Navarro, V. Diez-Blanco, O. Sanz, J. Solis, F. Vega, and J. Armengol. Waveguide structures in heavy metal oxide glass written with femtosecond laser pulses above the critical self-focusing threshold. Applied Physics Letters, 86:121109, 2005.
- [77] Kazuhiro Yamada, Wataru Watanabe, Yudong Li, and Kazuyoshi Itoh. Multilevel phase-type diffractive lenses in silica glass induced by filamentation of femtosecond laser pulses. Optics Letters, 29(16):1846–1848, 2004.
- [78] E.N. Glezer and E. Mazur. Ultrafast-laser driven micro-explosions in transparent materials. Applied Physics Letters, 71(7):882, 1997.
- [79] Chris B. Schaffer, Alan O. Jamison, and E. Mazur. Morphology of femtosecond laser-induced structural changes in bulk transparent materials. Applied Physics Letters, 84(9):1441, 2004.
- [80] T. Hashimoto, S. Juodkazis, and H. Misawa. Void recording in silica. Applied Physics A, 83:337–340, 2006.

- 
- [81] Saulius Juodkazis, Hiroaki Misawa, Tomohiro Hashimoto, Eugene G. Gamaly, and Barry Luther-Davies. Laser-induced microexplosion confined in a bulk of silica: Formation of nanovoids. Applied Physics Letters, 88:201909, 2006.
- [82] Eugene G. Gamaly, Saulius Juodkazis, Koichi Nishimura, Hiroaki Misawa, Barry Luther-Davies, Ludovic Hallo, Philippe Nicolai, and Vladimir T. Tikhonchuk. Laser-matter interaction in the bulk of a transparent solid: Confined microexplosion and void formation. Physical Review B, 73:214101, 2006.
- [83] X.R. Zhang, X. Xu, and A.M. Rubenchik. Simulation of microscale densification during femtosecond laser processing of dielectric materials. Applied Physics A, 79:945, 2004.
- [84] K.D. Moll and Alexander L. Gaeta. Role of dispersion in multiple-collapse dynamics. Optics Letters, 29(9):995–997, 2004.
- [85] D. Ehrt, T. Kittel, M. Will, S. Nolte, and A. Tünnermann. Femtosecond-laser-writing in various glasses. Journal of Non-Crystalline Solids, 345:332–337, 2004.
- [86] V.R. Bhardwaj, E. Simova, P.B. Corkum, D. M. Rayner, C. Hnatovsky, R.S. Taylor, B. Schreder, M. Kluge, and J. Zimmer. Femtosecond laser-induced refractive index modification in multicomponent glasses. Journal of Applied Physics, 97:083102, 2005.
- [87] R. El-Agmy, H. Bulte, A.H. Greenaway, and D.T. Reid. Adaptive beam profile control using a simulated annealing algorithm. Optics Express, 13(16):6085–6091, 2005.
- [88] V. Quetsche, J. Gleason, M. Rakhmanov, J. Lee, L. Zhang, Yoshiki K. Franzen, C. Leidel, G. Mueller, R. Amin, D.B. Tanner, and D.H. Reitze. Adaptive control of laser modal properties. Optics Letters, 31(2):217–219, 2006.
- [89] Wataru Watanabe and Kazuyoshi Itoh. Motion of bubble in solid by femtosecond laser pulses. Optics Express, 10(14):603–608, 2002.
- [90] E. Louzon, Z. Henis, S. Pecker, Y. Ehrlich, D. Fisher, M. Fraenkel, and A. Zigler. Reduction of damage threshold in dielectric materials induced by negatively chirped laser pulses. Applied Physics Letters, 87:241903, 2005.
- [91] J.P. Callan. Ultrafast dynamics and phase changes in solids excited by femtosecond laser pulses. PhD thesis, Harvard University, 2000.
- [92] Quan Sun, Hongbing Jiang, Yi Liu, Zhaoxin Wu, Hong Yang, and Qihuang Gong. Measurement of the collision time of dense electronic plasma induced by a femtosecond laser in fused silica. Optics Letters, 30(3):320, 2005.



- 
- [93] Ch. Horn. Zeitaufgelöste Analyse der Wechselwirkung von ultrakurz gepulster Laserstrahlung mit Dielektrika. PhD thesis, Aachen, 2003.
- [94] E.W. Kreutz, A. Horn, and R. Poprawe. Electron excitation in glasses followed by time- and space-measuring tools. Applied Surface Science, 248, 2005.
- [95] A. Horn, E.W. Kreutz, and R. Poprawe. Ultrafast time-resolved photography of femtosecond laser induced modifications in BK7 glass and fused silica. Applied Physics A, 79:923–925, 2004.
- [96] Z. Bor. Distorsion of femtosecond laser pulses in lenses and lens systems. Journal of Modern Optics, 35(12):1907–1918, 1988.
- [97] Alfred Vogel, Nahen Kester, Dirk Theisen, Reginald Birngruber, Robert J. Thomas, and Benjamin A. Rockwell. Influence of optical aberrations on laser-induced plasma formation in water and their consequences for intraocular photodisruption. Applied Optics, 38(16):1999, 1999.
- [98] T Toyoda and M Yabe. The temperature dependance of the refractive indices of fused silica and crystal quartz. J. Phys. D, 16:L97–L100, 1983.
- [99] Alfred Vogel, Ingo Apitz, Sebastian Freidank, and Rory Dijkink. Sensitive high-resolution white-light Schlieren technique with a large dynamic range for the investigation of ablation dynamics. Optics Letters, 31(12):1812–1814, 2006.
- [100] R. Bruckner. Properties and structure of vitreous silica i. Journal of Non-Crystalline Solids, 5:123–175, 1970.
- [101] F. Kohlrausch. Praktische Physik, volume 3. B. G. Teubner, Stuttgart, 1968.
- [102] Richard S. Judson and Herschel Rabitz. Teaching lasers to control molecules. Physical Review Letters, 1992:1500–1503, 1992.
- [103] Charles Darwin. The origin of species by mean of natural selection: the preservation of favored races in the struggle for life. Penguin Books, London, 1859.
- [104] A.E. Eiben and J.E. Smith. Introduction to Evolutionary Computing. Natural computing. Springer-Verlag, Berlin, 2003.
- [105] A. Bartelt. Steuerung der Wellenpaketdynamik in kleinen Alkaliclustern mit optimierten Femtosekundenpulsen. PhD thesis, Freie Universität, 2002.

- 
- [106] R. Stoian, A. Mermillod-Blondin, N.M. Bulgakova, A. Rosenfeld, I.V. Hertel, M. Spyridaki, E. Koudoumas, P. Tzanetakakis, and C. Fotakis. Optimization of ultrafast laser generated low-energy ion beams from silicon targets. Applied Physics Letters, 87:124105, 2005.
- [107] William M. Spears. Evolutionary Algorithms. Natural computing. Springer-Verlag, Berlin, 2000.
- [108] G. Stobrawa, M. Hacker, T. Feurer, D. Zeidler, M. Motzkus, and F. Reichel. A new high-resolution femtosecond pulse shaper. Applied Physics B, 72:627–630, 2001.
- [109] Hengchang Guo, Hongbing Jiang, Ying Fang, Chao Peng, Hong Yang, Yan Li, and Qihuang Gong. The pulse duration dependence of femtosecond laser induced refractive index modulation in fused silica. Journal of Optics A, 6:787–790, 2004.
- [110] Yuki Kondo, Kentaro Nouchi, Tsuneo Mitsuyu, Masaru Watanabe, Peter G. Kazansky, and Kazuyuki Hirao. Fabrication of long-period fiber grating by focused irradiation of infrared femtosecond laser pulses. Optics Letters, 24(10):646–648, 1999.
- [111] F. A. Bandak, D.H. Tsai, R.W. Armstrong, and A.S. Douglas. Formation of nanodislocation dipoles in shock-compressed crystals. Physical Review B, 47(18):11681–11687, 1993.
- [112] Yu Skryl and M Kuklja. Diffusion of point defects in shocked molecular crystals. Physical Review B, 71:094109, 2005.
- [113] S.P. Timoshenko and J.N. Goodier. Theory of Elasticity. McGraw-Hill Publishing Co., 3rd edition, 1970.
- [114] M.L. Wilkins. Calculation of elastic-plastic flow, volume 3 of Methods in Computational Physics. Academic Press, New York, 1964.
- [115] K.M. Davis, K. Miura, N. Sugimoto, and K. Hirao. Writing waveguides in glass with a femtosecond laser. Optics Letters, 21(21):1729, 1996.
- [116] E.N. Glezer, M. Milosavljevic, L. Huang, R.J. Finlay, T.-H. Her, J.P. Callan, and E. Mazur. Three-dimensional optical storage inside transparent materials. Optics Letters, 21(24):2023, 1996.
- [117] L. Sudrie, M. Franco, B. Prade, and A. Mysyrowicz. Writing of permanent birefringent microlayers in bulk fused silica with femtosecond laser pulses. Optics Communications, 171:279–284, 1999.

- 
- [118] Ya Cheng, Koji Sugioka, Katsumi Midorikawa, Masashi Masuda, Koichi Toyoda, Masako Kawachi, and Kazuhiko Shihoyama. Three-dimensional micro-optical components embedded in photosensitive glass by a femtosecond laser. Optics Letters, 28(13):1144–1146, 2003.
- [119] C. Hnatovsky, R.S. Taylor, E. Simova, V.R. Bhardwaj, D. M. Rayner, and P.B. Corkum. Polarization-selective etching in femtosecond laser-assisted microfluidic channel fabrication in fused silica. Optics Letters, 30(14):1867, 2005.
- [120] James W. Chan, Thomas R. Huser, Subhash H. Risbud, Joseph S. Hayden, and Denise M. Krol. Waveguide fabrication in phosphate glasses using femtosecond laser pulses. Applied Physics Letters, 82(15):2731–2733, 2003.
- [121] Arnaud Zoubir, Cedric Lopez, Martin Richardson, and Kathleen Richardson. Femtosecond laser fabrication of tubular waveguides in poly(methyl methacrylate). Optics Letters, 29(16), 2004.
- [122] V. Apostolopoulos, L. Laversenne, T. Colomb, C. Depeursinge, R. P. Salathé, M. Pollnau, R. Osellame, G. Cerullo, and P. Laporta. Femtosecond-irradiation-induced refractive-index changes and channel waveguiding in bulk  $\text{Ti}^{3+}$ :Sapphire. Applied Physics Letters, 85(7):1122–1124, 2004.
- [123] Ya Cheng, Koji Sugioka, and Katsumi Midorikawa. Freestanding optical fibers fabricated in a glass chip using femtosecond laser micromachining for lab-on-chip application. Optics Express, 13(18):7225, 2005.
- [124] S. M. Eaton, W. Chen, L. Zhang, H. Zhang, R. Iyer, J. S. Aitchison, and P. R. Herman. Telecom-band directional coupler written with femtosecond fiber laser. IEEE Photonics Technology Letters, 18:2174–2176, 2006.
- [125] Alexander Szameit, Dominik Blömer, Jonas Burghoff, Thomas Schreiber, Thomas Pertsch, Stefan Nolte, Andreas Tünnermann, and Falk Lederer. Discrete nonlinear localization in femtosecond laser written waveguides in fused silica. Optics Express, 13(26):10552, 2005.
- [126] Arnaud Zoubir, Martin Richardson, Lionel Canioni, Arnaud Brocas, and Laurent Sarger. Optical properties of infrared femtosecond laser-modified fused silica and application to waveguide fabrication. J. Opt. Soc. Am. B, 22(10):2138, 2005.

- [127] D. Homoelle, S. Wielandy, Alexander L. Gaeta, N. F. Borrelli, and Charlene Smith. Infrared photosensitivity in silica glasses exposed to femtosecond laser pulses. Optics Letters, 24(18):1311–1313, 1999.
- [128] K. Miura, H. Inouye, Q. Jianrong, T. Mitsuyu, and K. Hirao. Optical waveguides induced in inorganics glasses by a femtosecond laser. Nuclear Instruments and Methods in Physics Research B, 141:726–732, 1998.
- [129] A. Saliminia, R. Vallée, and S.L. Chin. Waveguide writing in silica glass with femtosecond pulses from an optical parametric amplifier at 1.5  $\mu\text{m}$ . Optics Communications, 256:422–427, 2005.
- [130] A. Saliminia, N.T. Nguyen, M.-C. Nadeau, S. Petit, S.L. Chin, and R. Vallée. Writing optical waveguides in fused silica using 1 kHz femtosecond infrared pulses. Journal of Applied Physics, 93(7):3724–3728, 2003.
- [131] Shane M. Eaton, Haibin Zhang, Peter R. Herman, Fumiyo Yoshino, Lawrence Shah, James Bovatsek, and Alan Y. Arai. Heat accumulation effects in femtosecond laser-written waveguides with variable repetition rate. Optics Express, 13(12):4708, 2005.