

István Bányász

List of Publications

1. I. Bányász, "Holographic wavefront reversal", Diploma thesis, (in Hungarian), Budapest, 1983
2. I. Bányász, G. Kiss and P. Varga, "Alignment tolerances in high resolution holography", Abstracts of the 1st "Ernst Abbe" Conference, p. 3, Jena, G.D.R., 1987
3. I. Bányász, G. Kiss and P. Varga, "Geometrical type aberrations of holograms measured by modified Hartmann-test", Abstracts of the 1st "Ernst Abbe" Conference, p. 23, Jena, G.D.R., 1987
4. I. Bányász, "High resolution holography", Ph.D. thesis, (in Hungarian), Budapest, 1987
5. I. Bányász, G. Kiss and P. Varga, "Holographic image of a point source in the presence of misalignment", Applied Optics, 27, 1293-1297, (1988)
6. Z. Füzessy, F. Gyimesi and I. Bányász, "Difference holographic Interferometry (DHI): single reference beam technique", Optics Communications, 68, 404-407, (1988)
7. I. Bányász, G. Kiss and P. Varga, "High resolution wide field holography", Yearbook of the Central Research Institute for Physics of the H.A.S., 1987-1988, p. 139, Budapest, (1989)
8. I. Bányász, G. Kiss and P. Varga, "How to obtain holograms with ideal resolution?", Abstracts of the 2nd "Ernst Abbe" Conference, p. 60, Jena, G.D.R., 1989
9. I. Bányász, Z. Füzessy and F. Gyimesi, "Fringe visibility in difference holographic interferometry", presented at conference "Holography'89" in Varna, Bulgaria, Proc. SPIE, 1183, 328-339, (1990)
10. I. Bányász, G. Kiss and P. Varga, "Holographic image of a point source in the presence of misalignment", in: Selected Papers on Holographic Particle Diagnostics (SPIE Milestones Series, vol. MS21, ed. Chandra S. Vikram, pp. 396-400, (1991), (A reprint of publication No. 5)
11. I. Bányász, "Resolution problems in holography", presented at Conference "DOE-91" in Szlkarska Poreba, Poland, Proc. SPIE, 1574, 282-293, (1991)
12. I. Bányász, "A straightforward approach to the evaluation of the effects of the MTF of the holographic recording material on the reconstructed image", Abstracts of the 2nd Berlin Colloquium on Optics, Berlin, p. B0h7 (1991)
13. I. Bányász, G. Kiss and P. Varga, "Képhibák és Petzval-felület a holográfiában" ("Aberrations and Petzval-surface in holography", in Hungarian, invited talk at the "Petzval Memorial Meeting" of the Hungarian Academy of Sciences, Budapest, 17 October 1991 (1991)
14. I. Bányász, "A new model of practical holography", presented at Conference on Holographic Imaging and Materials, Québec City, Canada, 16-20 August 1993, Tung H. Jeong, Editor, Proc. SPIE, 2043, 167-178, (1993).

15. I. Bányász, "Evaluation of the direct effect of the film MTF on the holographic image", *Journal of Modern Optics*, 40, 15-21, (1993)
16. I. Bányász, "Evaluation of the imaging properties of holograms recorded in materials of limited spatial resolution", *Optical Engineering*, 32, 2539-2547, (1993)
17. I. Bányász, "Method for the evaluation of the effects of film nonlinearities on the holographic image", *Optics Letters*, 18, 658-660, (1993)
18. I. Bányász, "New, exact methods of the treatment of the effects of nonlinear recording in holography", in: *Optics as a Key to High Technology: 16th Congress of the International Commission for Optics*, Gy. Ákos, T. Lippényi, G. Lupkovics, A. Podmaniczky, Editors, *Proc. SPIE*, 1983, 652-653, (1993)
19. I. Bányász, "Resolution and field range limitations in holography imposed by film MTF and nonlinearity", Presented at the Conference Holographics'92 in London, U.K., July 29 - August 2, 1992, *Proc. SPIE* 1732, 172-183, (1993)
20. I. Bányász, "The effects of the finite spatial resolution of thermoplastic recording materials on the holographic image", special issue on Physics of Image and Beam Processing, *Journal de Physique III*, 3, 1435-1444, (1993)
21. I. Bányász, "A unified model of high resolution holography", Thesis for the "Candidate in Physics" degree (in Hungarian), Budapest, 1993
22. I. Bányász, A. Fimia, A. Beléndez, L. Carretero, "Nonlinear recording of amplitude holograms in agfa 8E75HD: comparison of two developers", *Optics Communications*, 111, 225-232, (1994)
23. I. Bányász, A. Beléndez, A. Fimia, L. Carretero, "Holographic reconstruction of binary microstructures: limitations due to the nonlinearity of the recording material", presented at the Meeting "Processes and Models for Passive Microoptics", 11-12 April, Metz, France, *Texte des Communications*, pp. 157-160, (1995)
24. István Bányász, Daniel-Joseph Lougnot and Colette Turck, "Holographic recording with a near IR sensitive photopolymer system using a laser diode", presented at Conference on Holographic Materials, San Jose, CA, USA, 4 - 11 February 1995, T. John Trout, Editor, *Proc. SPIE*, 2405, pp. 24-31, (1995)
25. I. Bányász, « Un modèle des milieux d'enregistrement holographiques à thermoplastique » (A model of thermoplastic holographic recording materials), paper presented at conference « Horizons de l'Optique », Paris, France, 26 - 29 November 1995, Ed. : J.M.C. Jonathan, *Recueil des Communications*, pp. C34-C35, (1995)
26. I. Bányász, A. Beléndez, A. Fimia, L. Carretero, "Holographic reconstruction of binary microstructures: limitations due to the nonlinearity of the recording material", *Entropie*, 31, No.192/193, pp.72-75 (1995)
27. I. Bányász, A. Beléndez, A. Fimia, L. Carretero, « Limites debidos a no linealidades del material de registro en la reconstrucción holográfica de microestructuras binarias » (Limitations due to the nonlinearities of the recording material in the holographic reconstruction of binary microstructures), presented at the conference " XXV. Biental de Física de la Real Sociedad Española", Santiago de Compostella, Spain, 18 September 1995, Eds.: Ramón Bravo Quintas and Josefa Salgado Carballo, *Resúmenes de las Comunicaciones*, 525-526, (1995)

28. I. Bányász, "Nonlinear holographic recording in thermoplastic materials", presented at the "European Symposium on Advanced Imaging and Network Technologies: Conference on Holographic Materials", Berlin, 7 - 11 October 1996, Proc. SPIE 2951 pp. 36-46, (1996)
29. I. Bányász, "The effects of the finite spatial resolution of thermoplastic recording materials on the holographic image", in "Selected Papers on Holographic Recording Materials", SPIE Milestone Series, Hans I. Bjelkhagen, Editor, pp. 651-660, (a reprint of publication No.17) (1996)
30. I. Bányász, A. Fimia, A. Beléndez and L. Carretero, " Nonlinear characteristics of amplitude holograms recorded in silver halide materials", presented at the Workshop "Holography as Realized", Kecskemét, Hungary, 3-4 June 1996, Abstracts of the Workshop, pp. 18-19, (1996)
31. I. Bányász, D. J Loughnot and C. Turck, " Holography and holographic interferometry at 780 nm in a photopolymer material", Journal de Physique III, 7, pp. 211-222 (1997)
32. F. Amat-Guerri, I. Bányász, A. Beléndez, S. Blaya, L. Carretero, A. Fimia, R. Fuentes, C. García, M. T. Garzón, R. F. Madrigal, R. Mallavia, F. Mateos, R. Sastre, I. Pascual., « Fotopolímeros Aplicados a la Holografía » (Application of photopolymers in holography), presented at the conference « V Reunión Nacional de Óptica » , Valencia, Spain, 16 - 19 September 1997, Libro de Actas, pp. 189/190 (1997)
33. I. Bányász, I. Pascual, A. Beléndez, and A. Fimia, "Characterization of bleached holograms", Holography, 9, No. 2, p. 4, (1998)
34. I. Bányász, M. Fried, Cs. Dücső Cs. Hajdú and Z. Vértesy, "Fabrication of phase gratings in glass by ion implantation", presented at the conference "Diffractive and Holographic Device Technologies and Applications V.", of the Optoelectronics'98 Symposium, San José, CA, USA, Proc. SPIE, 1394, pp. 120-131, (1998)
35. I. Bányász, A. Beléndez, I. Pascual, and A. Fimia, "Method for the characterisation of hologram processing", Journal of Modern Optics,45, pp. 881-888, (1998)
36. I. Bányász, "Model of holographic recording in thermoplastic materials", Appl. Opt., 37, pp. 2081- 2086, (1998)
37. I. Bányász, A. Beléndez, and A. Fimia, "Highly nonlinear characteristics of bleached holograms recorded in Agfa 8E75HD plates", presented at Conference "Holographic Materials IV.", of the Electronic Imaging '98 Symposium, San José, CA, USA, Proc. SPIE, 1391, pp. 106-114 (1998)
38. I. Bányász, A. Beléndez, I. Pascual, and A. Fimia, "Comparison of nonlinear characteristics of phase-holograms processed by various combinations of developers and bleaching agents", Journal of Modern Optics, 46, pp. 591 - 605, (1999)
39. I. Bányász, "Hologram build-up in a near infrared sensitive photopolymer", Optics Communications. 181 , pp. 215 - 221, (2000)
40. I. Bányász, M. Fried, Cs. Dücső, Cs. Hajdú and Z. Vértesy, "Ion implantation of volume phase gratings in glass", presented at the Dennis Gabor Commemorative Conference and Symposium on Holography, 5-6 June, 2000, Budapest, Hungary, published on compact disk and on the web page of the Conference. (2000)

41. I. Bányász, A. Beléndez, I. Pascual and A. Fimia, "Semi-physical development of holograms recorded in silver halide emulsions", presented at Holography 2000 Conference, St. Pölten, Austria, 10-14 July, 2000, Proc. SPIE, 4149, pp.63-72, (2000)
42. I. Bányász, "On the semi-physical developing effect of the AAC developer on holograms recorded in Agfa-Gevaert 8E75HD emulsions", Optics Communications, 192 pp.27-35, (2001)
43. I. Bányász, M. Fried, Cs. Dücső and Z.Vértesy, "Recording of transmission phase gratings in glass by ion implantation", Applied Physics Letters , 79, 3755-3757, (2001)
44. I. Bányász, M. Fried and Cs. Dücső, "Characterisation of holographically recorded and ion-implanted phase gratings by phase-contrast and interference microscopy", Presented at the "EOS Topical Meeting on Diffractive Optics 2001", Budapest, Hungary, October 9-11, 2001, published on compact disk (2001)
45. I. Bányász, "Direct measurement of the refractive index profile of phase gratings, recorded in silver halide holographic materials by phase-contrast microscopy", Applied Physics Letters, 83, pp.4282- 4284, (2003)
46. I. Bányász, "Measurement and modelling of the full nonlinear characteristics of silver-halide holographic recording materials", Presented at the Symposium "Electronic Imaging 2002", Santa Clara, CA, USA, 23 - 29 January 2003, Proc. SPIE, 5005, pp. 55-64, (2003)
47. I. Bányász, M. Fried, Cs. Dücső and Z.Vértesy, "Phase grating fabrication in glass via ion implantation", Presented at the Symposium "Photonics Fabrication Europe 2002", Brugge, Belgium, 28 October -1 November 2002, Proc. SPIE, 4944, pp. 171-182, (2003)
48. I. Bányász, "Spatial frequency dependence of the nonlinear characteristics of bleached silver-halide holographic materials", Optics Communications, 225, 269-275, (2003)
49. I. Bányász, "Measurement of nonlinear characteristics of silver halide holographic materials by phase-contrast microscopy", Presented at the Symposium "Electronic Imaging 2002", Santa Clara, CA, USA, 23 - 29 January 2003, Proc. SPIE, 5005, pp.86-94, (2003)
50. I. Bányász, "Analysis of grating profiles of phase holograms recorded in silver halide emulsions and processed with combinations of various developers and bleaching agents", presented at Conference "Photon Management" of Symposium Photonics Europe, 26-30 April 2004 in Strasbourg, France, Proc. SPIE, 5456, pp.343-355, (2004)
51. I. Bányász, "Comparison of various bleaching processes for silver halide holographic emulsions using the refractive index modulation vs. before-bleach optical density characteristics", presented at Conference "Photon Management" of Symposium Photonics Europe, 26-30 April 2004 in Strasbourg, France, Proc. SPIE, 5456 , pp. 297- 306, (2004)
52. I. Bányász and J. Kornis, "High-resolution lensless Fourier-transform digital holography", presented at the Symposium: Optical Metrology, 13 - 16 June 2005, München, Germany. Proc. SPIE Vol. 5856, pp. 71-79, (2005)

53. I. Bányász, "Refractive index modulation vs. before-bleach optical density modulation characteristics of silver halide phase holograms", *Optics Communications*, 244, 79 - 91, (2005)
54. I. Bányász, "Fourier analysis of high spatial frequency holographic phase gratings", *J. Mod. Optics*, 52, 2443-2451, (2005)
55. G. C. Righini, I. Bányász, S. Berneschi, M. Brenci, A. Chiasera, M. Cremona, D. Ehrh, M. Ferrari, R. M. Montoreali, G. Nunzi Conti, S. Pelli, S. Sebastiani, C. Tosello, "Laser irradiation, ion implantation and e-beam writing of integrated optical structures", presented at the Symposium: Microtechnologies for the New Millennium 2005 (SPIE) 9-11 May 2005, Sevilla, Spain. *Proc. SPIE Vol. 5840*, pp 649 - 657, (2005)
56. I. Bányász and G. Mandula, "Direct microscopic observation of hologram build-up in photorefractive crystals", presented at the Symposium "Holography 2005", 21-25 May 2005, Varna, Bulgaria. *Proc. SPIE Vol. 6252*, pp. 09-1 – 09-6, (2006)
57. I. Bányász, "Comparison of the effects of two bleaching agents on the recording of phase holograms in silver halide emulsions", *Optics Communications*, 267, 356-361, (2006).
58. I. Bányász, "Higher-order harmonics in bleached silver halide holograms", *Optics and Lasers in Engineering*, (special issue on Diffractive Optical Elements), 44, 926-942, (2006)
59. I. Bányász and G. Mandula, "Quasi in-situ microscopic study of hologram build-up in LiNbO₃ crystal", oral presentation, Conference "Practical Holography XXI: Materials and Applications", Photonics West 2007 Symposium, San Jose, USA, 20 – 27 January 2007, *Proc. SPIE 6488*, pp. 08-17, (2007)
60. S. Berneschi, G. Nunzi Conti, I. Bányász, S. Pelli, M. Brenci, G. C. Righini, A. Watterich, N. Q. Khanh, M. Fried, "Channel waveguides fabrication in Er³⁺-doped tellurite glass by ion beam irradiation", oral presentation, Conference "Integrated Optics: Devices, Materials, and Technologies XI", Photonics West 2007 Symposium, San Jose, USA, 20 – 27 January 2007, *Proc. SPIE 6475*, pp. 09-14, (2007)
61. S. Berneschi, G. Nunzi Conti, I. Bányász, A. Watterich, N. Q. Khanh, M. Fried, F. Pásztai, M. Brenci, S. Pelli, G. C. Righini "Ion beam irradiated channel waveguides in Er³⁺-doped tellurite glass", *Applied Physics Letters*, 90, 121136, (2007)
62. T. Lohner, I. Bányász, M. Fried, C. Major, F. Pásztai, A. Watterich, "Fabrication of diffractive optical elements using ion implantation", *MFA Yearbook 2007*, p. 76, <http://www.mfa.kfki.hu/yearbook>
63. Bányász I, Mandula G; Application of interference microscopy to the study of hologram build-up in LiNbO₃ crystals, *Optics Communications*, 281, 4268–4272, DOI: 10.1016/j.optcom.2008.04.075 (2008)
64. Bányász, I, Berneschi, S, Fried, M, Cacciari, I, Lohner, T, Nunzi-Conti, G, Pásztai, F, Pelli, S, Righini, GC, Watterich, A, Zolnai, Z, Petrik, P, "Nitrogen-ion-implanted planar optical waveguides in Er-doped tellurite glass: fabrication and characterisation", oral presentation, presented at Conference Optical Components and Materials V., Symposium Photonics West 2008, San Jose, USA, 19 – 24 January 2008, *Proc. SPIE 6890*, p. 68901A, DOI: 10.1117/12.768507 (2008)
65. S. Berneschi, M. Brenci, G. Nunzi Conti, S. Pelli, G. C. Righini, M. Bettinelli, A. Speghini, I. Bányász, M. Fried, N.Q. Khanh, F. Pásztai, A. Watterich, A. Leto, G.

- Pezzotti and A. A. Porporati, Optical and structural characterization of Erbium-doped ion-implanted tellurite glasses for active integrated optical devices, *Advances in Science and Technology*, **55**, pp 68-73 , (2008) <http://www.scientific.net>
66. S. Berneschi, M. Brenci, G. Nunzi Conti, S. Pelli, G. C. Righini, M. Bettinelli, A. Speghini, I. Bányász, M. Fried, N.Q. Khanh, F. Pászti, A. Watterich, A. Leto, G. Pezzotti and A. A. Porporati, Optical and structural characterization of Erbium-doped ion-implanted tellurite glasses for active integrated optical devices, poster presented at "CIMTEC 2008 " Symposium, Acireale, Italy
 67. G. Nunzi Conti, S. Berneschi, M. Brenci, S. Pelli, C. Tosello, A. Chiasera, M. Ferrari, I. Bányász, A. Watterich, N.Q. Khanh, T. Lohner, P. Petrik, Z. Zolnai, M. Fried, F. Pászti, and G.C. Righini, Laser and ion-beam writing of integrated optical structures in Er^{3+} -doped glasses, invited talk, presented at Sedwal Workshop 2008 on Sensitized Er doped waveguide amplifier/laser, held at Levico, Trento, Italy 13-15 April 2008, <http://portale.unitn.it/events/sedwal/>, (2008)
 68. N. Q. Khanh, S. Berneschi, I. Bányász, M. Brenci, M. Fried, G. Nunzi Conti, F. Pászti, S. Pelli, G. C. Righini, A. Watterich, Fabrication of channel waveguides in Er^{3+} -doped tellurite glass via N^+ ion implantation, poster presented at Conference 11th Int. Conf. on Nuclear Microprobe Technology and Applications, Debrecen, Hungary. (2008)
 69. N. Q. Khanh, Zs. Zolnai, I. Bányász, M. Fried, T. Lohner, Waveguide formation by N^+ ion implantation in Er^{3+} -doped tellurite glass, oral presentation, 9-th International Young Scientists Conference Optics and High Technology Material Science SPO 2008, *AO.15*, Kiyiv, Ukraine, October 23-26, 2008, spo.univ.kiev.ua/files/abstracts%20SPO-2008.pdf, (2008)
 70. T. Lohner, I. Bányász, M. Fried, C. Major, F. Pászti, A. Watterich , "Fabrication and investigation of diffractive optical elements using ion implantation", *MFA Yearbook 2008*, p. 39, <http://www.mfa.kfki.hu/yearbook>
 71. Berneschi S., Brenci M., Nunzi Conti G., Pelli S., Righini G.C., Tosello C., Chiasera A., Ferrari M., Bányász I., Watterich A., Fried M., Pászti F., UV and ion-beam writing for the fabrication of channel waveguides in different oxide glasses activated by Er^{3+} ions, oral presentation at the XCV National Conference of the Italian Photonic Society (SIF), Bari, Italy, 28 September - 3 October 2009
 72. N. Q. Khanh, S. Berneschi, I. Bányász, M. Brenci, M. Fried, G. Nunzi Conti, F. Pászti, S. Pelli, G. C. Righini, A. Watterich, Fabrication of channel waveguides in Er^{3+} -doped tellurite glass via N^+ ion implantation, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, **267**, 2327-2330 , doi: [10.1016/j.nimb.2009.03.042](https://doi.org/10.1016/j.nimb.2009.03.042) (2009)
 73. S. Berneschi, I. Cacciari, G. Nunzi Conti, S. Pelli, G. C. Righini, I. Bányász, N. Q. Khanh, T. Lohner, P. Petrik, Z. Zolnai, A. Speghini, M. Bettinelli, L. Mescia, F. Prudenzano, Annealing effect on optical barrier in ion-implanted tellurite glass waveguides, oral presentation at Conference, *Integrated Optics: Devices, Materials, and Technologies XIII*, [Conference 7218](#) of Symposium Photonics West 2009, San Jose, CA, USA, 24 - 29 January 2009, *Proc. SPIE*, vol. **7218**, pp. 721807, DOI: [0.1117/12.811153](https://doi.org/10.1117/12.811153), (2009)
 74. I. Bányász, S. Berneschi, T. Lohner, M. Fried, P. Petrik, N. Q. Khanh, Z. Zolnai, A. Watterich, M. Bettinelli, M. Brenci, G. Nunzi-Conti, S. Pelli, G. C. Righini, A. Speghini, Characterisation of slab waveguides, fabricated in CaF_2 and Er-doped tungsten-tellurite glass by MeV energy N^+ ion implantation, using spectroscopic ellipsometry

and m-line spectroscopy, oral presentation at Conference Silicon Photonics and Photonic Integrated Circuits (EPE109), part of the Symposium "Photonics Europe 2010", 12 - 16 April 2010, Brussels Belgium, Proc. SPIE, Vol. 7719, 77190G (2010); doi:10.1117/12.854624

75. I. Bányász, S. Berneschi, N. Q. Khanh, T. Lohner, M. Fried, P. Petrik, Z. Zolnai, K. Lengyel, Á. Péter, A. Watterich, G. Nunzi-Conti, S. Pelli, and G. C. Righini, Structural and functional characterisation of slab waveguides written in Er^{3+} - doped tellurite glass, CaF_2 , $\text{Bi}_4(\text{GeO}_4)_3$ and $\text{Bi}_{12}\text{GeO}_{20}$ crystals via implantation of MeV N^+ ions, oral presentation at Conference EURODIM 2010, 12-16 July 2010, Pécs, Hungary, Book of Abstract, Eurodim 2010, p. 13.5, MTA SZFKI, Budapest, Hungary, http://eurodim2010.szfki.hu/book_of_abstracts.pdf , (2010)
76. I. Bányász, S. Berneschi, N. Q. Khanh, T. Lohner, M. Fried, P. Petrik, Z. Zolnai, K. Lengyel, Á. Péter, A. Watterich, G. Nunzi-Conti, S. Pelli, and G. C. Righini, Structural and functional characterisation of slab waveguides written in Er^{3+} - doped tellurite glass, CaF_2 , $\text{Bi}_4(\text{GeO}_4)_3$ and $\text{Bi}_{12}\text{GeO}_{20}$ crystals via implantation of MeV N^+ ions, presented at Conference EURODIM 2010, 12-16 July 2010, Pécs, Hungary, *IOP Conference Series: Materials Science and Engineering* (MSE), Vol. Volume 15, Number 1, doi: [10.1088/1757-899X/15/1/012027](https://doi.org/10.1088/1757-899X/15/1/012027) , (2010)
77. S. Berneschi, M. Bettinelli, M. Brenci, G. Nunzi Conti, S. Pelli, A. Speghini, I. Bányász, M. Fried, N.Q. Khánh, T. Lohner, A.Watterich, Z. Zolnai and G. C. Righini, Ion-implanted optical waveguides in Er^{3+} - doped tellurite glasses , poster at Conference PHOTOLUMINESCENCE IN RARE EARTHS: PHOTONIC MATERIALS AND DEVICES (PRE'10) , 29 - 30 April 2010, Firenze, Italy, Program and Abstracts, eds. M. Brenci and G. C. Righini, p. 120 (2010)
78. S. Pelli, I. Bányász, T. Lohner, M. Fried, P. Petrik, N.Q. Khanh, Z. Zolnai, A. Watterich, M. Bettinelli, A. Speghini, G. Nunzi-Conti, S. Berneschi, G. C. Righini, Fabrication and characterisation of ion-implanted waveguides in Er doped tellurite glasses: effects of dose, energy and annealing, oral, presented at the EOSAM 2010 Conference, France, Book of Abstracts, xxxx, (2010)
79. T. Lohner, I. Bányász, M. Fried, S. Berneschi, G. Nunzi Conti, S. Pelli, M. Brenci, G.C. Righini, Z. Zolnai, N. Q. Khanh, C. Major, A. Watterich, Fabrication and investigation of planar waveguides using ion implantation, poster at 5th International Conference on Spectroscopic Ellipsometry, 23-28 May 2010, Albany, NY USA, poster No. P2-56 (2010)
80. T. Lohner, I. Bányász, M. Fried, C. Major, F. Pászti, A. Watterich , "Fabrication and investigation of diffractive optical elements using ion implantation", MFA Yearbook 2010, p. 53, <http://www.mfa.kfki.hu/yearbook>
81. S. Berneschi, M. Brenci, G. Nunzi Conti, S. Pelli, G.C. Righini, M. Bettinelli, A. Speghini, I. Bányász, M. Fried, N. Q. Khanh, T. Lohner, P. Petrik, A. Watterich, Z. Zolnai, Slab optical waveguides in Er^{3+} - doped tellurite glass by N^+ ion implantation at 1.5 MeV, *Optical Engineering*, 50, 071110; doi:10.1117/1.3559209 (2011)
82. S. Pelli, S. Berneschi, G. Nunzi Conti, S. Soria, G. C. Righini, I. Banyasz, K. Lengyel, Á. Peter, A. Watterich, T. Lohner, M. Fried, and Z. Zolnai, Characterisation of Optical Waveguides in BGO Crystals Fabricated by N^+ Ion Implantation, in *CLEO/Europe and EQEC 2011 Conference Digest*, OSA Technical Digest (CD) (Optical Society of America, 2011), paper CE_P29, ISBN: 978-1-4577-0533-5, doi: 10.1109/CLEOE.2011.5942856, (2011)

83. I. Bányász, S. Berneschi, N. Q. Khanh, T. Lohner, K. Lengyel, M. Fried, Á. Péter, P. Petrik, Z. Zolnai, A. Watterich, G. Nunzi-Conti, S. Pelli and G. C. Righini, Formation of slab waveguides in eulytine and sillenite type BGO and CaF₂ crystals by implantation of MeV nitrogen ions, oral presentation at Conference REI-16, 14 - 19 August 2011, Beijing, People's Republic of China, in: 16th International Conference on Radiation Effects in Insulators, Book of Abstracts, 86 (2011)
84. I. Bányász, Ion beam implanted optical elements in glasses, invited talk, International Workshop on Ion Beam Applications of Functional Materials, August 19-22, Jinan, People's Republic of China, Program Book, International Workshop on Ion Beam Applications of Functional Materials, 13 (2011)
85. I. Bányász, „Nagy feloldóképességű holográfia” (High-resolution holography), in Hungarian, poster at the Exhibition „A holográfia Hajnala és Horizontja” (The Dawn and the Horizon of Holography, Hungarian Patent Office, Budapest, 23 September – 13 October 2011 (2011)
86. I. Bányász, S. Berneschi, M. Fried, N.Q. Khanh, Zs. Zolnai, Á. Péter, K. Lengyel, and T. Lohner, “Formation of slab waveguides in eulytine and sillenite type BGO crystals by implantation of MeV nitrogen ions”, MFA Yearbook 2011, p. 48, <http://www.mfa.kfki.hu/yearbook> (2011)
87. I. Bányász, S. Berneschi, N. Q. Khanh, T. Lohner, K. Lengyel, M. Fried, Á. Péter, P. Petrik, Z. Zolnai, A. Watterich, G. Nunzi-Conti, S. Pelli and G. C. Righini, Formation of slab waveguides in eulytine and sillenite type BGO and CaF₂ crystals by implantation of MeV nitrogen ions, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Volume 286, 80–84 , (2012)
88. Bányász I, Zolnai Z, Pelli S, Berneschi S, Nunzi Conti G, Fried M, Lohner T, Petrik P, Brenci M, Righini GC, Fabrication of barrier-type slab waveguides in Er³⁺ - doped tellurite glass by single- and double energy MeV N⁺ ion implantation, oral presentation at Conference Integrated Optics: Devices, Materials, and Technologies XVI (OE110), part of Symposium Photonics West 2012, 21–26 January 2012, San Francisco, California, USA, Proc. of SPIE Vol. 8264, 826406 (2012)
89. I. Bányász, S. Berneschi, M. Bettinelli, M. Brenci, M. Fried, N.Q. Khanh, T. Lohner, G. Nunzi Conti, S. Pelli, P. Petrik, G.C. Righini, A. Speghini, A. Watterich, Z. Zolnai, MeV energy N⁺ - implanted planar optical waveguides in Er-doped tungsten-tellurite glass operating at 1.55 μm, IEEE Photonics Journal, Volume 4, Issue 3, pp. 721-7 , DOI: 10.1109/JPHOT.2012.2194997 (2012)
90. S. Berneschi, A. Chiasera, M. Ferrari, G. Nunzi Conti, S. Pelli, G.C. Righini, M. Fried, N.Q. Khanh, T. Lohner, P. Petrik, Z. Zolnai, I. Bányász, Er-doped tungsten-tellurite N⁺ - implanted waveguides: optical and spectroscopic characterization, poster, presented at 4th International Workshop on PHOTOLUMINESCENCE IN RARE EARTHS: PHOTONIC MATERIALS AND DEVICES (PRE'12), Kyoto, Japan, 28 – 30 March 2012 (2012)
91. I. Bányász, S. Berneschi, M. Fried, T. Lohner, G. Nunzi Conti, G.C. Righini, S. Pelli, Z. Zolnai, M-line spectroscopic, spectroscopic ellipsometric and microscopic measurements of optical waveguides fabricated by MeV-energy N⁺ ion irradiation for telecom applications, presented as oral presentation at the Spring Meeting of the E-MRS, Strasbourg, France, 14 -19 April 2012 (2012)
92. I. Bányász, S. Berneschi, M. Fried, T. Lohner, G. Nunzi Conti, G.C. Righini, S. Pelli, Z. Zolnai, M-line spectroscopic, spectroscopic ellipsometric and microscopic

measurements of optical waveguides fabricated by MeV-energy N^+ ion irradiation for telecom applications, Thin Solid Films, accepted for publication (2012)

92. I. Bányász, I. Rajta, G.U.L. Nagy, Design and focussed proton beam fabrication of transmission optical gratings of quasi-sinusoidal profile in glass, poster, presented at 13th International Conference on Microprobe Technology and Applications, Lisbon, Portugal, 22-27 July 2012 (2012)
93. I. Bányász , J. Olivares , O. Peña-Rodríguez , M. L. Crespillo, Z. Zolnai, M. Fried, T. Lohner, S. Berneschi, G. Righini, S. Pelli , G. Nunzi Conti, Single - and double energy swift and slow heavy ion irradiated optical waveguides in Er: Tungstene-Tellurite glass and BGO for telecom applications, talk presented at the 18th International Conference on Ion Beam Modification of Materials, 2 -7 September 2012, Qingdao, China (2012)
94. I. Bányász , J. Olivares , O. Peña-Rodríguez , M. L. Crespillo, Z. Zolnai, M. Fried, T. Lohner, S. Berneschi, G. Righini, S. Pelli , G. Nunzi Conti, Single - and double energy swift and slow heavy ion irradiated optical waveguides in Er: Tungstene-Tellurite glass and BGO for telecom applications, to be submitted for publication in Nuclear Instruments and Methods in Physics Research Section B (2012)

Budapest, 17 September 2012

Dr. István Bányász