

FULL LIST OF PUBLICATIONS

Publications in international peer-reviewed journals (77)

1. “Optical and digital methods for holographic data compression”, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *Opt. Pura Apl.* **55**, 51075 (2022).
2. “Improved phase hologram generation of multiple 3D objects”, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *Appl. Opt.* **61**, 3230-3239 (2022).
3. “Improved phase multiplexing using iterative and non-iterative hologram generation”, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *J. Opt. Laser Eng.* **151**, 106921 (2022).
4. “Optical encryption using phase modulation generated by thermal lens effect”, A. Jaramillo-Osorio, A. Velez-Zea, H. Cabrera, J. Niemela, **J.F. Barrera-Ramírez**, R. Torroba, *J. Opt.* **24**, 025702 (2022).
5. “Focus-tunable experimental optical cryptosystem”, A. Jaramillo-Osorio, W. Torres-Sepúlveda, A. Velez-Zea, A. Mira-Agudelo, **J.F. Barrera-Ramírez**, R. Torroba, *Opt. & Laser Technol.* **148**, 107689 (2022).
6. “Alternative constraints for improved multiplane hologram generation”, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *Appl. Opt.* **61** B8-B16 (2022).
7. “Quality guided alternative holographic data representation for high performance lossy compression”, M. Gomez, S. Trejos, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *J. Opt.* **23**, 075702 (2021).
8. “Generation and experimental reconstruction of optimized Fresnel random phase only holograms”, A. Velez-Zea, S. Bustamante, **J.F. Barrera-Ramírez**, R. Torroba, *J. Opt.* **23**, 055602 (2021).
9. “Secure selective recovery protocol for multiple optically encrypted data”, A. Jaramillo, A. Velez-Zea, A. Mira-Agudelo, **J.F. Barrera-Ramírez**, R. Torroba, *J. Opt. Laser Eng.* **137**, 106383 (2020).
10. “Experimental Fresnel and Fourier digital holography using a digital micro-mirror device”, A. Jaramillo, S. Bustamante, B. Muñoz, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *J. Opt.* **23**, 035701 (2021).
11. “Compression of 3D dynamic holographic scenes in the Fresnel domain”, S. Trejos, M. Gomez, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *Appl. Opt.* **59** D230-D238 (2020).
12. “High performance compact optical cryptosystem without reference arm”, A. Jaramillo, **J.F. Barrera-Ramírez**, S. Montoya, A. Mira-Agudelo, A. Velez-Zea, R. Torroba, *J. Opt.* **22**, 035702 (2020).
13. “Experimental holographic movie compression using optical scaling and sampling”, M. Gomez, S. Trejos, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *J. Opt.* **22**, 035703 (2020).
14. “Optimization of the light sword lens for presbyopia correction”, W. Torres-Sepúlveda, A. Mira-Agudelo, **J.F. Barrera-Ramírez**, K. Petelczyc, A. Kolodziejczyk, *Transl. Vis. Sci. Technol.* Article 6 (1-16) (2020).
15. “Latin America: Reduced S&T Investment Puts Sustainable Development at Risk”, P. Bolaños-Villegas, F.M. Cabrerizo, F. D. Brown, P. Zancan, **J.F. Barrera-Ramírez**, P.A. González-Muñoz, H.E. Grecco, A.M. Kalergis, A.C. Paula-Lima,

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 17. “Photothermal lens technique: a comparison between conventional and self-mixing schemes”, H. Cabrera, I. Ashraf, F. Matroodi, E.E. Ramírez-Miquet, J. Akbar, J.J. Suárez-Vargas, **J.F. Barrera-Ramírez**, D. Korte, H. Budasheva, J. Niemela, *Laser Physics* **29**, 055703 (2019).
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 24. “Fractional optical cryptographic protocol for data containers in a noise-free multiuser environment”, A. Jaramillo, **J.F. Barrera-Ramírez**, A. Velez-Zea, R. Torroba, *Opt. Laser Eng.* **102**, 119-125 (2018).
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 26. “Experimental evaluation of the light sword lens performance with a variable pupil size”, W. Torres, A. Mira-Agudelo, **J.F. Barrera-Ramírez**, A. Kolodziejczyk, *Photon. Lett. Poland* **10**, 36-38 (2018).
 27. “Cryptographic salting for security enhancement of double random phase encryption schemes”, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *J. Opt.* **19**, 105703 (2017).
 28. “Experimental optical encryption of grayscale information”, A. Velez-Zea, **J.F. Barrera-Ramírez**, R. Torroba, *Appl. Opt.* **56**, 5883-5889 (2017).
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40. "Experimental scrambling and noise reduction applied to the optical encryption of QR codes", **J.F. Barrera-Ramírez**, A. Velez-Zea, R. Torroba, *Opt. Express.* **22**, 20268-20277 (2014).
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57. "Chosen-plaintext attack on a joint transform correlator encrypting system", **J.F. Barrera-Ramírez**, C. Vargas, M. Tebaldi, R. Torroba, *Opt. Commun.* **283**, 3917-3921 (2010).
58. "One step multiplexing optical encryption", **J.F. Barrera-Ramírez**, R. Torroba, *Opt. Commun.* **283**, 1268-1272 (2010).
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61. "Efficient encrypting procedure using amplitude and phase as independent channels to display decoy objects", **J.F. Barrera-Ramírez**, R. Torroba, *Appl. Opt.* **48**, 3121-3129 (2009).
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69. "Prevailing effects of interference or diffraction by multiple apertures", O. Quintero, **J.F. Barrera-Ramírez**, R. Henao, F.F. Medina, *Opt. Commun.* **266**, 558-561 (2006).
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6. “Light Sword Lens as Effective Method of Presbyopia Compensation”, K. Petelczyc, K. Kakarenko, A. Kolodziejczyk, Z. Jaroszewicz, M. Rękas, A. Mira-Agudelo, **J.F. Barrera-Ramírez**, R. Henao, Frontiers in Optics 2016, OSA Technical Digest (online) (Optical Society of America, 2016), paper FW2A.4.
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1. “Encriptación de información mediante procesamiento óptico”, **J.F. Barrera-Ramírez**, Rev. Acad. Colomb. Cienc. Ex. Fis. Nat. **46**, 68-89 (2022).
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