

Istruzione

- Dottorato presso l'Università di Grenoble "J. Fourier" A.A. 1998-1999
- Laurea in Ingegneria Elettronica - Università di Napoli "Federico II" A.A. 1993-1994

Esperienza Lavorativa

- Post Doc presso l'European Synchrotron Radiation Facility. Grenoble (Francia) 1999-2000
- Post Doc presso l'Argonne National Laboratories (USA)" 2000-2001
- Ricercatore e Primo Ricercatore (2010) presso il Consiglio Nazionale delle Ricerche 2002 ad oggi

Attività di Ricerca

- I filoni principali dell'attività di ricerca sono l'ottica integrata, fotonica e metamateriali e l'ottica a raggi-X e le sue applicazioni con luce di sincrotrone. Fra i principali risultati scientifici la prima dimostrazione di un metamateriale fotonico di dimensioni macroscopiche ad indice di rifrazione quasi nullo (Mocella et al., *Physical Review Letters* 102, 133902, 2009. IF 9.227), la dimostrazione sperimentale che un dielettrico strutturato si comporta otticamente come un mezzo ad indice di rifrazione negativo (Dardano, Gagliardi, Rendina, Cabrini & Mocella, *Light: Science & Applications* 1, e42, 2012. IF 14.1) e che la luce viene guidata in modo anomalo, fornendo un nuovo modello teorico (Romano, Cabrini, Rendina & Mocella, *Light: Science & Applications* 3 e120, 2014. IF 14.1). Di recente pubblicazione la dimostrazione di un comportamento chirale della luce legato alle proprietà topologiche del metamateriale nanostrutturato (Zito, .. & Mocella, *Optica* 6-9, 2019. IF 9.3)
- Nel campo delle applicazioni dell'ottica a raggi X con luce di sincrotrone di particolare rilievo la prima dimostrazione di una tecnica non invasiva capace di leggere il testo all'interno di manoscritti carbonizzati (Mocella et al., *Nature Communications*, 6 5895, 2015, IF 11.88) e la prima evidenza sperimentale della presenza di inchiostri metallici nei papiri dell'antichità, retrodatando di quasi 4 secoli l'utilizzo di inchiostri metallici in campo letterario (Brun .. & Mocella, *Proceedings of the National Academy of Sciences*, 113-14, 3751, 2016, IF 9.6).

Oltre a numerosi inviti presso i principali convegni e le principali accademie scientifiche italiane ed internazionali, vi sono diversi documentari per illustrare i risultati delle ricerche, fra i principali: [Rai Storia](#) : "I papiri di Ercolano ai raggi-X" , [Arte \(TV pubblica franco-tedesca\)](#) : "Décrypter des papyrus antiques... calcinés," [Mel Films \(produzione indipendente USA\)](#) : "Would Say Would fall", [BBC](#), [CBS 60 Minutes](#), [SuperQuark](#).

Interviste con i principali quotidiani e settimanali italiani e internazionali, fra i principali: [New York Times](#), [The New Yorker](#), [The Economist](#), [Le Monde](#), [El Pais](#), [The Guardian](#), [La Repubblica](#), [Il Corriere della Sera](#), [Nature](#), [Science](#), [National Geographics](#), [Spiegel](#), [USA Today](#), ...



Attività di Gestione

- Dal 2015 Consigliere di Amministrazione del Consiglio Nazionale delle Ricerche, nella qualità di rappresentante eletto dal personale. Il coordinamento di numerosi progetti nazionali ed internazionali con partners quali Lawrence Berkeley National Labs, Boston University, European Synchrotron Radiation Facility, British Museum, CNRS, INSERM, BAM, Université de Montpellier, ha richiesto lo sviluppo di capacità organizzative nel campo della ricerca nonché di attitudine alla rendicontazione tecnico-scientifica e gestionale. Dal 2007 al 2015, Segretario Generale di “Articolo 33”. Dal 2008 al 2012, membro del Consiglio di Presidenza della Società Italiana di Ottica e Fotonica (SIOF) che promuove le attività di ricerca e sviluppo nell'ambito dell'ottica e della fotonica e di coordinare tali attività su tutto il territorio nazionale ed è il branch italiano dell'European Optical Society (EOS). Dal 2013 è General Chair delle 4 edizioni della conferenza biennale “Optics at NanoScale” dell'EOS e dal 2017 della conferenza “Waves in Complex Media” dell'EOS.

Impegno a difesa dell'Ente

- Precedentemente all'impegno in CdA, nel corso degli ultimi 13 anni ho portato avanti in prima persona numerose azioni volte a salvaguardare gli interessi del proprio Ente di Ricerca. Dall'[incauto tentato acquisto di un immobile a Napoli](#), alla [gestione dell'ex osservatorio ad Anacapri](#), alla [petizione per chiedere le dimissioni del vicepresidente De Mattei](#), una delle pagine più buie del CNR, passando per boicottaggio dell'ANVUR a seguito della mancata nomina in CdA del rappresentante eletto (cf. la lettera alla rivista Nature ([Amato, Lavia, & Mocella Nature 501, 316, 2013 dal titolo “Research: Boycott challenges research tactics”](#))).
- In reazione alle azioni succitate possono annoverarsi: 1 querela (archiviata) dell'allora Consigliere d'Amministrazione G. Ferrara (2012), 3 procedimenti disciplinari (2015, 2018, 2019) avviati in modo illegittimo per l'attività di Consigliere di Amministrazione e poi archiviati, 1 articolo su “il Giornale” (2019) contenente un attacco personale e pertanto oggetto di una mia querela per diffamazione.

Keynotes e Relazioni su invito a convegni internazionali

- [SPIE Optics and Optoelectronics 2019](#), Praga (Repubblica Ceca)” (invited talk) 1-4/4/2019
- [Advanced Photon Source Colloquium 2018](#). Argonne National Labs (USA) 3/10/2018
- Mellon Sawyer Seminars [“Textual Exchanges: The Manuscript Across Premodern Eurasia”](#), University of Iowa, Iowa City (USA) 20/1/2017
- [2nd International Conference on Art & Archaeology 2016 - Art and Archaeology Strengthened by Measurement Techniques](#) - University of Jerusalem, Israele. 11-14/12/2016
- [2016 North American Particle Accelerator Conference \(NAPAC16\)](#), University of Chicago (USA) - (plenary speaker) 9-14/10/2016



- **2016 [Synchrotron Radiation and Neutrons in Art and Archaeology \(SR2A\)](#)**, The Art Institute of Chicago, Chicago (USA) – (keynote speaker) 6-8/9/2016
- **RACIRI Summer [School - Convergent Science and Technology for Society](#)**, Repino – St Pietroburgo (Federazione Russa) (invited teacher) 21-28/8/2016
- **2nd [International Conference on Natural Sciences and Technology in Manuscript Analysis](#)**, Hamburg (Germania), (keynote speaker) 29/2-3/3/2016
- **Swiss National Science Foundation (SNSF) – Annual Retreat 2015**, Berna (Svizzera) – (opening talk) 20-21/10/2015
- **[De Gruyter Autorenfest 2015, SplendidaMente Italia! - Berlino](#)** (Germania), (keynote speaker) 2/7/2015
- **SPIE [Optics and Optoelectronics 2015](#)**, Praga (Repubblica Ceca) (invited talk) 13-16/4/2015
- **[Meta'14 the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics](#)**, Singapore - (invited talk) 20-23/5/2014
- **[Metanano 2014 - International Conference on Metamaterials and Nanophysics](#)** – Varadero (Cuba) – (invited talk) 22/4/-1/5/2014
- **[Metamaterials 2010](#)**: Fourth international congress on advanced electromagnetic materials in microwaves and optics, Karlsruhe (Germania) – (invited talk) 12-15/9/2010
- **Application of Optical Metamaterials (AOM), Optical Society of America OSA-Meeting**, Tianjin (China), “ (keynote talk). 22-25/6/2009
- **Material Research Society- MRS 2009 Spring Meeting**, San Francisco (US.A (invited talk) 13-17/4/2009
- **SMEXOS - Simulation Methods for Optical Systems - Grenoble** (Francia), (invited talk) 24-25/2/2009
- **EDXAS – 2009 Energy Dispersive X-ray Absorption Spectroscopy: Scientific Opportunities and Technical Challenges**, Grenoble (Francia) , (invited talk) 3-4/2/2009
- **Molecular Foundry Meeting, Berkeley (USA)** , “Metamaterials design and fabrications” (Invited talk). 5-6/10/2007

Relazioni su invito a convegni nazionali

- **Accademia Nazionale dei Lincei – Centro Linceo Interdisciplinare (Roma) – I Papiri di Ercolano fra Scienza e Filosofia – “** 27/1/2017
- **Scienza e Arte – Università di Camerino, Pinacoteca e Musei** 19/5/2016



Civici

- Accademia Nazionale dei Lincei –(Roma) – Conferenza a classi riunite 10/12/2015

Incarichi Internazionali di Docenza e di Ricerca

- Visting Scientist, European Synchrotron Radiation Facility (ESRF), Grenoble (Francia). Dal 2003 soggiorni da 15 gg a 2 mesi
- Visting Scientist presso Photonic Center della Boston University, (USA) 2008 e 2010
- Invited Professor, Université de Montpellier 2 (Francia). A.A. 2010-2011, corso dal 1 maggio al 30 giugno

Riconoscimenti e Premi

- [Premio : Gli Eccellenti Campani in Italia, sezione Ricerca e Innovazione Anno 2016 .](#)
- Cavaliere dell'Ordine al Merito della Repubblica. [Lettera della presidenza della Repubblica del 10/03/2007.](#)

Competenze Linguistiche

- Italiano (Prima lingua)
- Francese (Madrelingua)
- Inglese Eccellente (lettura, scrittura e comunicazione orale)

Allegati**Elenco delle Pubblicazioni**

Napoli 21 settembre 2019



ELENCO DELLE PUBBLICAZIONI

G. Zito, S. Romano, S. Cabrini, G. Calafiore, A. .C. De Luca, E. Penzo and Vito Mocella, “*Observation of spin-polarized directive coupling of light at bound states in the continuum*”, **Optica** 6-9, 2019.

A.S. Leal, S. Romano, D. Delattre, E. Brun and Vito Mocella, “*Digital study on the rolled-up herculaneum papyri*”, **Cronache Ercolanesi**, 49, 217-223, 2019.

S. Romano, G.Zito, S. Yépez, S. Cabrini, E. Penzo, G. Coppola, I. Rendina, and Vito Mocella, “*Tuning the exponential sensitivity of a bound-state-in-continuum optical sensor*”, **Optics Express**, 27-13, 18776-18786, 2019.

S. Romano, G.Zito, S. MAnagò, S. Cabrini, E. Penzo, A.C. De Luca and Vito Mocella, “*Surface-Enhanced Raman and Fluorescence Spectroscopy with an All-Dielectric Metasurface*”, **The Journal of Physical Chemistry C**, 122 (34), 19738-19745, 2018.

S Romano, G Zito, S Torino, G Calafiore, E Penzo, G Coppola, S Cabrini, I. Rendina and V. Mocella, “*Label-free sensing of ultralow-weight molecules with all-dielectric metasurfaces supporting bound states in the continuum*”, **Photonics Research** 6 (7), 726-733, 2018.

AP Honkanen, C Ferrero, JP Guigay, V Mocella, “*A finite-element approach to dynamical diffraction problems in reflection geometry*”, **Journal of Applied Crystallography** 51 (2), 514-525, 2018.

S Romano, A Lamberti, M Masullo, E Penzo, S Cabrini, I Rendina, and V. Mocella, “*Optical biosensors based on photonic crystals supporting bound states in the continuum*”, **Materials** 11 (4), 526, 2018.

A. S. Leal, S. Romano and Vito Mocella, “*Ink study of Herculaneum Papyri*”, **Journal: Manuscript cultures**, 11, 17-21, 2018.

S Manago, AC De Luca, V Mocella, I Rendina, G Carapella, R Ciancio, M. Gombos, “*Raman Characterization of Melt-Textured Gd1212 Superconductors in the Normal State*”, **IEEE Transactions on Applied Superconductivity**, 28-4, 1-4, 2018.

E Penzo, S Romano, Y Wang, S Dhuey, L Dal Negro, V Mocella, S. Cabrini, “*Patterning of electrically tunable light-emitting photonic structures demonstrating bound states in the continuum*”, **Journal of Vacuum Science & Technology B, Nanotechnology**, 35-6, 06G401, 2017.

S Romano, S Torino, G Coppola, S Cabrini, V Mocella, “*Optical sensors based on photonic crystal: A new route*” **Optical Sensors** 10231, 102312J, 2017.

S Romano, G Zito, S Managò, E Penzo, S Dhuey, AC De Luca, S Cabrini, V. Mocella, “*Enhanced fluorescence emission using bound states in continuum in a photonic crystal membrane*”, **Metamaterials XI** 10227, 102270B, 2017.

V. Mocella, **Comics & Science** 2, 34-37, 2017

E. Brun, M. Cotte, J. Wright, M. Ruat, P. Tack, L. Vincze, C. Ferrero, D. Delattre, V. Mocella, "Revealing metallic ink in Herculaneum papyri", **Proceedings of the National Academy of Sciences**, 113-14, p. 3751-3754, 2016.

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P. Tack, M. Cotte, S. Bauters, E. Brun, D. Banerjee, W. Bras, C. Ferrero, D. Delattre, V. Mocella & L. Vincze – " *Tracking ink composition on Herculaneum papyrus scrolls: quantification and speciation of lead by X-ray based techniques and Monte Carlo simulations*", **Scientific Report** 6: 20763, 2016.

S. Managò, DeLuca, Anna Chiara; Rendina, Ivo; Mocella, Vito; Romano, Silvia; Carapella, Giovanni; Ciancio, Regina; Gombos, Marcello; ,Normal-State Optical Features Study of Nd₁₂₃ and Gd₁₂₁₂ HTSC Materials for Photonics and Metamaterials Fabrication,**IEEE Transactions on Applied Superconductivity**,26,3,1-4,2016.

V. Mocella, E. Brun, C. Ferrero, D. Delattre "Revealing letters in rolled Herculaneum papyri by X-ray phase-contrast imaging" , **Nature Communications** 6, 5895, 2015.

Mocella, V; Romano, S; Giant field enhancement in photonic resonant lattices, **Physical Review B**,92,15,155117,2015

Del Mastro, Gianluca; Delattre, Daniel; Mocella, Vito; ,Una nuova tecnologia per la lettura non invasiva dei papiri ercolanesi,**CRONACHE ERCOLANESI**,45,,227-230,2015

Mocella, V; Ferrero, C; Guigay, J-P; ,Dynamical diffraction approach of deformed crystals using finite element method, **SPIE Optics+ Optoelectronics**, 95100H-95100H-6,2015

Rao, S; Rendina, I; New perspectives in silicon micro and nanophotonics, **Journal of the European Optical Society-Rapid publications**,10,2015.

Mocella, Vito; Romano, Silvia; ,Dielectric negative index metamaterial as plasmonics devices,**SPIE Optics+ Optoelectronics**, 95020J-95020J-6,2015.

Romano, Silvia; Rendina, Ivo; Mocella, Vito; ,High field enhancement factors in photonic nanostructures,"AEIT International Annual Conference (AEIT), 2015",1-3,2015,IEEE

Romano, Silvia; Mocella, Vito; ,High-field enhancement factor in dielectric photonic structures,**SPIE Optics+ Optoelectronics**,,,95020S-95020S-6,2015,

Gombos, M; Rendina, I; Romano, S; Carapella, G; Ciancio, R; Mocella, V; ,High Tc superconducting materials for photonics: Normal state optical features study of Nd₁₂₃ and Gd₁₂₁₂,"**Fotonica AEIT Italian Conference on Photonics Technologies**, 2015",1-4,2015,

S. Romano, S. Cabrini, I. Rendina and Vito Mocella, “*Guided resonance in negative index photonic crystals: a new approach*” **Light: Science & Applications** 2014.

Mocella, V; Romano, S; ,Giant field enhancement in structured dielectrics film, **SPIE OPTO**, 899517-899517-7,2014.

Romano, S; De Luca, AC; De Tommasi, E; Cabrini, S; Rendina, I; Mocella, V; ,Observation of resonant states in negative refractive photonic crystals ,**Journal of the European Optical Society- Rapid publications**,9,2014.

Ciancia, P; Rendina, I; Cocorullo, G; Mocella, V; ,Revisiting the Superprism effect: a theory close to the Bragg condition,Proc. of SPIE Vol,8781,,87811D-1,2013

Romano, S; De Tommasi, E; De Luca, AC; Rendina, I; Cabrini, S; Mocella, V; ,The negative refraction under out-of-plane incident condition: an experimental study, **SPIE OPTO**., 89941D-89941D-8,2014.

Di Martino, Giuseppe; Dardano, Principia; Mocella, Vito; Rendina, Ivo; ,High efficiency ultra-thin silicon photonic crystal based solar cells, **SPIE Optics+ Optoelectronics**,,,87711C-87711C-8,2013.

Mocella, V; Dardano, P; De Luca, AC; De Tommasi, E; Rendina, I; Romano, S; ,Negative index resonant states: a route toward nonmetal plasmonics and metamaterials,SPIE Optics+ Optoelectronics,,,87710E-87710E-7,2013.

Romano, S; Rendina, Ivo; Cabrini, S; Mocella, V; ,New insight in guided resonances with negative refracting photonic crystals, **SPIE Optics+ Optoelectronics**,,,87810N-87810N-6,2013.

Moretti, Luigi, Mocella, Vito; Optical Thue-Morse Systems for Nanophotonics Applications, **Optics of Aperiodic Structures: Fundamentals and Device Applications**, pag. 179-203 2013, Pan Stanford Publishing CRC Press (**Book Chapter**) DOI: 10.1201/b15653-6

P. Dardano, M. Gagliardi, I. Rendina, S. Cabrini and V. Mocella “*Ellipsometric determination of permittivity in a negative index photonic crystal metamaterial*”, **Light: Science & Applications** 1, e42, 2012.

Di Caprio, Giuseppe; Dardano, Principia; Coppola, Giuseppe; Cabrini, Stefano; Mocella, Vito; ,Digital holographic microscopy characterization of superdirective beam by metamaterial,**Optics letters**,37,7,1142-1144,2012.

Mocella, Vito; ,Tunneling of ultradirective radiation in metamaterials with zero-average index bandgap,**Journal of Nanophotonics**,5,1,053524-053524-5,2011.

Mocella, Vito; Dardano, Principia; Rendina, Ivo; Cabrini, Stefano; ,Super-directive beam from metamaterials, **SPIE Microtechnologies**,,,80690G-80690G-7,2011.

V Mocella, P Dardano, I Rendina, S Cabrini, “An extraordinary directive radiation based on optical antimatter at near infrared”, **Optics Express** 18 (24), 25068-25074, 2010.

E De Tommasi, I Rea, V Mocella, L Moretti, M De Stefano, I Rendina , Multi-wavelength study of light transmitted through a single marine centric diatom, **Optics Express** 18 (12), 12203-12212, 2010.

Dardano, Principia; De Stefano, Luca; De Tommasi, Edoardo; Ferrara, Maria Antonietta; Mocella, Vito; Rea, Ilaria; Sirleto, Luigi; Rendina, Ivo; , **SPIE New perspectives and applications of silicon nanophotonics, OPTO,,**760503-760503-9,2010.

De Tommasi, E; Rea, I; Mocella, V; Moretti, L; De Stefano, M; Rendina, I; De Stefano, L; ,Light confinement in marine centric diatoms: main characteristics and wavelength dependence,**SPIE Optical Engineering+ Applications**,778203-778203-7,2010.

Mocella V, Cabrini S, Chang ASP, Dardano P, Moretti L, Rendina I, Olynick D, Harteneck B, Dhuey S , “Self-Collimation of Light over Millimeter-Scale Distance in a Quasi-Zero-Average-Index Metamaterial“, **Phys. Rev Lett.** **102**.133902, 2009.

L De Stefano, P Maddalena, L Moretti, I Rea, I Rendina, E De Tommasi, V Mocella, M De Stefano, “Nano-biosilica from marine diatoms: a brand new material for photonic applications” , **Superlattices and Microstructures** 46 (1), 84-89, 2009.

Casalino, Maurizio; Coppola, Giuseppe; Dardano, Principia; De Stefano, Luca; De Tommasi, Edoardo; Ferrara, Antonella; Gioffrè, Mariano; Iodice, Mario; Mocella, Vito; Rea, Ilaria; ,Micro and nanophotonics in silicon: new perspectives and applications, **SPIE Europe Microtechnologies for the New Millennium,,**36606-736606-17,2009.

V Mocella, C Ferrero, C Morawe, JP Guigay “Beyond the Geometric toward a Wave Optical Approach in the Design of Curved Crystal and Multilayer Optics for EDXAS”- **Energy Dispersive X-ray Absorption Spectroscopy Workshop**, 32, 2009.

Mario Iodice, Luca De Stefano, Giuseppe Coppola, Vito Mocella, Ilaria Rea, Edoardo De Tommasi, Emanuele Orabona, Ivo Rendina, “Label-free biosensing by means of optical micro-ring resonator”, **SPIE Optical SENSORS**, 7356, 735603, 2009

P. Dardano, Vito Mocella, Stefano Cabrini, Allan S Chang, Luigi Moretti, Ivo Rendina, Deindre Olynick, Bruce Harteneck, Scott Dhuey, “Large area light propagation in quasi-zero average refractive index materials”, **MRS Proceedings**, 1182, 2009.

Guigay, JP; Morawe, Ch; Mocella, V; Ferrero, C; ,An analytical approach to estimating aberrations in curved multilayer optics for hard x-rays: 1. Derivation of caustic shapes, **Optics express**,16,16,12050-12059,2008.

S Savo, E Di Gennaro, C Miletto, A Andreone, P Dardano, L Moretti, V Mocella, Pendellösung effect in photonic crystals **Optics Express** 16 (12), 9097-9105, 2008.

Morawe, Ch; Guigay, J-P; Mocella, V; Ferrero, C; Mimura, H; Handa, S; Yamauchi, K; ,Aberrations in curved x-ray multilayers, **SPIE Optical Engineering+ Applications**,,70770T-70770T-12,2008.

L Moretti, V Mocella, “Two-dimensional photonic aperiodic crystals based on Thue-Morse sequence”, **Optics Express** 15 (23), 15314-15323, 2007.

V Mocella, P Dardano, L Moretti, I Rendina “Influence of surface termination on negative reflection by photonic crystals “ **Optics Express** 15 (11), 6605-6611, 2007.

De Stefano, Luca; De Stefano, Mario; Maddalena, Pasqualino; Moretti, Luigi; Rea, Ilaria; Mocella, Vito; Rendina, Ivo; ,Playing with light in diatoms: small water organisms with a natural photonic crystal structure, **SPIE Microtechnologies for the New Millennium**,659313-659313-9,2007

Dardano, Principia; Mocella, Vito; Moretti, Luigi; Rendina, I; ,Negative refraction devices based on self-collimating photonic crystals, **SPIE Microtechnologies for the New Millennium**, 659316-659316-8,2007.

Dardano, P; Mocella, V; Moretti, L; Rendina, I; ,Negative refraction devices based on self-collimating photonic crystals [6593-05],**PROCEEDINGS-SPIE THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING**,6593,,6593,2007.

P Dardano, L Moretti, V Mocella, L Sirleto, I Rendina, “Investigation of a tunable T-shaped waveguide based on a silicon 2D photonic crystal”, **Journal of Optics A: Pure and Applied Optics** 8 (7), S554, 2006

J Hrdý, V Mocella, P Oberta, L Peverini, K Potlovskiy, “Diffractive–refractive optics in the Laue case: first experiment”, **Journal of synchrotron radiation** 13 (5), 392-396, 2006.

S Lagomarsino, I Bukreeva, V Mocella, A Surpi, T Bigault, A Cedola, “Large-distance refocusing of a submicrometre beam from an X-ray waveguide”, **Journal of synchrotron radiation** 13 (1), 85-87, 2006.

Dardano, Principia; Mocella, Vito; Sirleto, Luigi; Moretti, Luigi; Rendina, Ivo; ,Active Photonic Crystals Based multiplexer, **MRS Proceedings**,934,,0934-109-15,2006.

V Mocella, “Negative refraction in Photonic Crystals: thickness dependence and Pendellösung phenomenon”, **Optics Express** 13 (5), 1361-1367, 2005.

V Mocella, P Dardano, L Moretti, I Rendina, “A polarizing beam splitter using negative refraction of photonic crystals”, **Optics Express** 13 (19), 7699-7707, 2005.

Mocella, Vito; ,Thickness dependence of negative refraction in photonic crystals, **Proc. SPIE**,5840,,161-167,2005.

Mocella, V; Time Delay in x-ray diffraction ,**Frontiers in Optics, JME5**,2005,

Moretti, Luigi; Mocella, Vito; Sirleto, Luigi; Bonasso, Giuseppe; Dardano, Principia; Rendina, Ivo;

.Investigation of a T-shaped waveguides based on a silicon 2D photonic crystal,**Optics & Photonics** **2005**,59260V-59260V-9,2005.

V Mocella, JP Guigay, J Hrdý, C Ferrero, J Hoszowska, “Bent crystals in Laue geometry: dynamical focusing of a polychromatic incident beam”, , **Journal of applied crystallography**, 37-6, 941, 2004.

V Mocella, L De Stefano, L Moretti, I Rendina –“ Photonic bandgap analysis based on the dynamical diffraction theory and its application to multilayer structures “ - **SPIE Photonic Crystal Materials and Nanostructures**, 5450, 557-568 2004

V Mocella, WK Lee, G Tajiri, D Mills, C Ferrero, Y Epelboin, A new approach to the solution of the Takagi-Taupin equations for X-ray optics: application to a thermally deformed crystal monochromator, **Journal of applied crystallography** 36 (1), 129-136, 2003.

V Mocella, JP Guigay, J Hrdý, C Ferrero, J Hoszowska “Dynamic focusing of polychromatic incident beam with bent crystals in Laue geometry” SPIE - Crystals, Multilayers, and Other Synchrotron Optics, 5195, 115-124, 2003

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Hoszowska, J; Migliore, J-S; Mocella, V; Ferrero, C; Freund, AK; Zhang, L; ,Performance of synchrotron X-ray monochromators under heat load Part 1: finite element modeling, "**Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment**",467,,409-413,2001

Mocella, V; Epelboin, Y; Guigay, JP; HÄertwig, J; ,Applications of dynamical diffraction under locally plane wave conditions: defects in nearly perfect crystals and X-ray refractometry,**Acta Crystallographica Section A: Foundations of Crystallography**,57,5,526-530,2001

Mocella, V; Ferrero, C; Freund, AK; Hoszowska, J; Zhang, L; Epelboin, Y; ,Performances of synchrotron X-ray monochromators under heat load. Part 2. Application of the Takagi-Taupin diffraction theory, "**Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment**",467,,414-417,2001

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V Mocella, Y Epelboin, JP Guigay, “X-ray dynamical diffraction: the concept of a locally plane wave” **Acta Crystallographica Section A: Foundations of Crystallography** 56 (3), 308-316, 2000.

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