

LINEA: Ingeniería, Control de Calidad y Tecnologías de Procesado de Materiales y Fabricación

Responsables: Antonio J. Gámez López (antoniojuan.gamez@uca.es)

CONTRIBUCIONES CIENTÍFICAS MÁS RELEVANTES DE LOS ÚLTIMOS 5 AÑOS

1. Fernando Lloret, David Eon, Etienne Bustarret, Alexandre Fiori and Daniel Araujo, "Boron-Doping Proximity Effects on Dislocation Generation during Non-Planar MPCVD Homoepitaxial Diamond Growth", *Nanomaterials* 8, 480 (2018)
2. T. T. Pham, J. C. Piñero, A. Maréchal, M. Gutiérrez, F. Lloret, D. Eon, E. Gheeraert, N. Rouger, D. Araújo, and J. Pernot, "Impact of Nonhomoepitaxial Defects in Depleted Diamond MOS Capacitors", *IEEE TRANSACTIONS ON ELECTRON DEVICES*, 65, 1830 (2018)
3. T. T. Pham, M. Gutierrez, C. Masante, N. Rouger, D. Eon, E. Gheeraert, D. Araujo, and J. Pernot, "High quality Al₂O₃/(100) oxygen-terminated diamond interface for MOSFETs", *Appl. Phys. Lett* 112, 102103 (2018)
4. J. Navas, D. Araújo, J. C. Piñero, A. Sánchez-Coronilla, E. Blanco, P. Villar, R. Alcántara, J. Montserrat, M. Florentin, D. Eon, J. Pernot, "Oxygen termination of homoepitaxial diamond surface by ozone and chemical methods: An experimental and theoretical perspective", *Appl. Surf. Sci.* 433, 408-418 (2018).
5. M. Gutiérrez, F. Lloret, P. Jurczak, J. Wu, H.Y. Liu, and D. Araujo, "GaSb and GaSb/AlSb Superlattice Buffer Layers for High-Quality Photodiodes Grown on Commercial GaAs and Si Substrates", *J. Electronic Materials* (2018)
6. Jerome Alexander Cuenca, Evan Lloyd Hunter Thomas, Soumen Mandal, David John Morgan, Fernando Lloret, Daniel Araujo, Oliver Aneurin Williams, and Adrian Porch, "Microwave Permittivity of Trace sp² Carbon Impurities in Sub-Micron Diamond Powders", *ACS Omega* 3, 2183 (2018)
7. M. Gutierrez, D. Araujo, P. Jurczak, J. Wu, and H. Liu, "Solid solution strengthening in GaSb/GaAs: A mode to reduce the TD density through Be-doping", *Appl. Phys. Lett.* 110, 92103 (2017)
8. J.C. Piñero, D. Araújo, A. Fiori, A. Traoré, M.P. Villar, D. Eon, P. Muret, J. Pernot, T. Teraji, "Atomic composition of WC/ and Zr/O-terminated diamond Schottky interfaces close to ideality", *Appl. Surf. Sci.* 395, 200 (2017)
9. J.C. Piñero, D. Araújo, C.E. Pastore, M. Gutierrez, C. Frigeri, A. Benali, J.F. Lelièvre, M. Gendry, "Twins and strain relaxation in zinc-blende GaAs nanowires grown on silicon", *Appl. Surf. Sci.* 395, 195 (2017)
10. Jose C. Piñero, María P. Villar, Daniel Araujo, Josep Montserrat, Bernat Antunez, and Philippe Godignon, "Impact of Thermal Treatments in Crystalline Reconstruction and Electrical Properties of Diamond Ohmic Contacts Created by Boron Ion Implantation", *Phys. Stat. Sol. (a)* 214 1700230 (2017)
11. F. Lloret, A. Fiori, D. Araujo, D. Eon, M. P. Villar, and E. Bustarret, "Stratigraphy of a diamond epitaxial three-dimensional overgrowth using doping superlattices", *Appl. Phys. Lett.* 108, 181901 (2016)

12. Fernando Lloret, Daniel Araujo, David Eon, Maria del Pilar Villar, Juan-Maria Gonzalez-Leal, and Etienne Bustarret, "Influence of methane concentration on MPCVD overgrowth of 100-oriented etched diamond substrates", *Phys. Stat. Sol. (a)* 213, 2570 (2015)
13. P. Muret, A. Traore, A. Marechal, D. Eon, J. Pernot, J. C. Piñero, M. P. Villar, and D. Araujo, "Potential barrier heights at metal on oxygen-terminated diamond interfaces", *J. Appl. Phys* 118, 204505 (2015)
14. F. Lloret, D. Araujo, M. P. Alegre, J. M. Gonzalez-Leal, M. P. Villar, D. Eon, and E. Bustarret, "TEM study of defects versus growth orientations in heavily boron-doped diamond", *Phys. Stat. Sol. (a)* 212, 2468 (2015)
15. G. Chicot, A. Fiori, P. N. Volpe, T. N. Tran Thi, J. C. Gerbedoen, J. Bousquet, M. P. Alegre, J. C. Piñero, D. Araujo, F. Jomard, A. Soltani, J. C. De Jaeger, J. Morse, J. Hartwig, N. Tranchant, C. Mer-Calfati, J. C. Arnault, J. Delahaye, T. Grenet, D. Eon, F. Omnes, J. Pernot, and E. Bustarret, "Electronic and physico-chemical properties of nanometric boron delta-doped diamond structures", *J. Appl. Phys* 116, 83702 (2014)
16. M.P. Alegre, D. Araujo, A. Fiori, J.C. Piñero, F. Lloret, M.P. Villar, P. Achatz, G. Chicot, E. Bustarret y F. Jomard. "Critical boron-doping levels for generation of dislocations in synthetic diamond". *Applied Physics Letters* 105, 173103 (2014)
17. F. Lloret, J. Piñero, D. Araujo, M. P. Villar, E. Gheeraert, A. Vo-Ha, V. Soulière, M. Rebaud, D. Carole, and G. Ferro, "Diamond as substrate for 3C-SiC growth: A TEM study", *Phys. Stat. Sol. (a)* 211, 2302 (2014)
18. J. C. Piñero, D. Araujo, A. Traoré, G. Chicot, A. Maréchal, P. Muret, M. P. Alegre, M. P. Villar, and J. Pernot, "Metal-oxide-diamond interface investigation by TEM: Toward MOS and Schottky power device behavior", *Phys. Stat. Sol. (a)* 211, 2367 (2014)
19. V. Soulière, A. Vo-Ha, D. Carole, A. Tallaire, O. Brinza, J.C. Piñero, D. Araujo, G. Ferro, "Heteroepitaxial CVD growth of 3C-SiC on diamond substrate", *Mat. Sci. Forum* 778, 226 (2014)
20. D. Araujo, M.P. Alegre, J.C. Piñero, A. Fiori, E. Bustarret, F. Jomard. "Boron concentration profiling by high angle annular dark field-scanning transmission electron microscopy in homoepitaxial delta-doped diamond layers". *Applied Physics Letters* 103, 42104 (2013)
21. F. Lloret, D. Araújo, M.P. Villar, J.G. Rodríguez-Madrid, G.F. Iriarte, O.A. Williams, F. Calle, "Diamond underlayer microstructure effect on the orientation of AlN piezoelectric layers for high frequency SAW resonators by TEM", *Microelectronic Eng.* 112, 193 (2013)
22. Boukha-Boukha, Zouhair; Sánchez-Amaya, José María; González-Rovira, Leandro; Del Río-Sánchez, Eloy; Blanco-Montilla, Ginesa; Botana-Pedemonte, Francisco Javier. Influence of CO₂-Ar mixtures as shielding gas on laser welding of Al-Mg alloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*. 2013, 44 (13), 5711-5723
23. Sánchez-Amaya, José María; Amaya-Vazquez, Margarita Raquel; González-Rovira, Leandro; Botana-Pedemonte, Francisco Javier. Influence of Surface Pre-treatments on Laser Welding of Ti6Al4V Alloy. *Journal of Materials Engineering and Performance*. 2014, 23 (5), 1568-1575
24. R-W. Bosch, R. A. Cottis, K. Csecs, T. Dorsch, L. Dunbar, A. Heyn, F. Huet, O. Hyökyvirta, Z. Kerner, A. Kobzova, J. Macak, R. Novotny, J. Öjjerholm, J. Piippo, R. Richner, S. Ritter, J. M. Sánchez-Amaya, A. Somogyi, S. Väisänen, W. Zhang. Reliability of electrochemical noise measurements: results of round-robin testing on electrochemical noise. *Electrochimica Acta*, Volume: 120, Pages: 379-389. 2014
25. D. P. Silva, C. Churiaque, I. N. Bastos and J. M. Sánchez-Amaya. Tribocorrosion Study of Ordinary and Laser-Melted Ti6Al4V Alloy. *Metals*, Volume: 6, Issue: 10, 253. 2016.

26. J. M. Sánchez-Amaya, T. Pasang, M. R. Amaya-Vazquez, J. Lopez-Castro, C. Churiaque, Y. Tao, J. Botana. Microstructure and Mechanical Properties of Ti5553 Butt Welds Performed by LBW under Conduction Regime. *Metals*, Volume: 7, Issue: 7, 269. 2017.
27. L.C. Gontard, J.D. López-Castro, L. González-Rovira, J.M. Vázquez-Martínez, F.M. Varela-Feria, M. Marcos, J.J. Calvino. Assessment of engineered surfaces roughness by high-resolution 3D SEM photogrammetry. *Ultramicroscopy*. 177, 106-114. 2017.
28. Marta Botana-Galvin, Ginesa Blanco, Leandro Gonzalez-Rovira, Miguel A Rodríguez and Francisco J Botana. Adhesive behaviour of carbon fibre reinforced plastic panels manufactured using woven and unidirectional tape after ultraviolet laser surface treatment. *Journal of composite materials*. 2018, 52(7), 853-865.
29. C. Churiaque, J. M. Sánchez-Amaya, F. Caamaño, J.M. Vázquez-Martínez, J. Botana. Springback Estimation in the Hydroforming Process of UNS A92024-T3 Aluminum Alloy by FEM Simulations. *Metals*, Volume: 8, Issue: 6, 404. 2018.
30. Fernández-Ancio, Fernando; Gámez-López, Antonio Juan; Marcos-Bárcena, Mariano. 2017. Superficial Alterations In The Generation Of A 3D Surface. The Case Of Machining By Turning. Application Of Principal Component Analysis To The Study Of The Various Factors Involved. *International Journal Of Surface Science And Engineering*. 12(2), pp. 77-98
31. Fernández-Ancio, Fernando; Gámez-López, Antonio Juan; Marcos-Bárcena, Mariano. 2016. Study Of Turned Surfaces By Principal Component Analysis. *Precision Engineering*. 43 (2016): 418-428.
32. Fernández-Ancio, Fernando; Gámez-López, Antonio Juan; Marcos-Bárcena, Mariano. 2015. Factors Influencing The Generation Of A Machined Surface. Application To Turned Pieces. *Journal Of Materials Processing Technology*. 215: 50- 61.
33. J.M. Vázquez, J. Salguero, P.F. Mayuet, S.R. Fernández, M. Batista Title: Effects of Laser Microtexturing on the Wetting Behavior of Ti6Al4V Alloy. *Coatings*, vol 8(4) (2018), pp. 145-158
34. F. Bañón, A. Sambruno, B. Simonet, J.Salguero, M. Marcos
Title: Preliminary Study of the Dry Drilling Process of CFRP/UNS A92024 Stacks Held Together by Adhesives. *Procedia Manufacturing*, vol. 13 (2017), pp. 211-218
35. J. Salguero, S.R. Fernández, P. Mayuet, J.M. Vázquez, M. Álvarez, M. Marcos. Methodology for the Study of the Quality of CFRP Dry Drilling Based on Macrogeometrical and Dimensional Deviations. *World Journal of Engineering and Technology*, vol. 4 (2016), pp. 200-205
36. J. Salguero, F.J. Puerta, A. Gómez, F. J. Trujillo, L. Sevilla, M. Marcos. An Analysis of Geometrical Models for Evaluating the Influence of Feed Rate on the Roughness of Dry Turned UNS A92050 (Al-Cu-Li) Alloy. *Advances in Materials and Processing Technologies*, vol. 2 (2016), pp. 578-589
37. S.R. Fernández, P. Mayuet, A. Rivero, J. Salguero, I. del Sol, M. Marcos. Analysis of the Effects of Tool Wear on Dry Helical Milling of Ti6Al4V Alloy *Journal: Procedia Engineering*, vol. 132 (2015), pp. 593-599
38. J. Salguero, M. Calamaz, M. Batista, F. Girot, M. Marcos. Cutting Forces Prediction in the Dry Slotting of Aluminium Stacks. *Materials Science Forum*, vol. 797 (2014), pp. 47-52
39. J. Salguero, M. Batista, M. Calamaz, F. Girot, M. Marcos. Cutting Forces Parametric Model for the Dry High Speed Contour Milling of Aerospace Aluminium Alloys. *Procedia Engineering*, vol. 63 (2013), pp. 735-742
40. A. Gómez, M. Álvarez, J. Salguero, M. Batista, M. Marcos. Analysis of the Evolution of the Built-Up Edge and Built-Up Layer Formation Mechanisms in the Dry turning of Aeronautical Aluminium Alloys. *Wear*, vol. 302 (2013), pp. 1209-1218