



MARIA DEL PILAR VILLAR CASTRO

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Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

Profesora Titular de Universidad del Área de Conocimiento de Ciencia de los Materiales e Ingeniería Metalúrgica desde 2008. Licenciada en Ciencias Químicas y Doctora en Ciencias por la Universidad de Cádiz (2000), realizó su tesis doctoral en el entorno de los materiales cerámicos, estudiando mecanismos de cristalización de mullitas sol-gel dopadas con cromo y caracterizando estructuralmente sinterizados de estos materiales, haciendo para ello uso de técnicas de análisis con haces de neutrones (técnicas de difracción de neutrones y dispersión de neutrones a bajo ángulo), con haces de electrones (técnicas de microscopía electrónica: SEM, TEM, HREM) y de rayos X. Posteriormente, su actividad investigadora se centró en el entorno de los materiales compuestos, giro en su investigación que se debió a requerimientos de la industria aeronáutica del entorno de la Bahía de Cádiz y al interés del grupo de investigación por abrir líneas de trabajo de un mayor acercamiento industrial. Así pues, comenzó a trabajar en procesado láser de materiales compuestos de fibra de carbono de uso aeronáutico, como resultado de lo cual se realizó una tesis doctoral que codirigió (Antonio J. García Fuentes, 2006), y se obtuvieron diversos contratos con la industria y proyectos de investigación de orientación industrial y ámbito nacional (1 contrato con Airbus, S.L.; 3 proyectos PROFIT). Continuando su investigación en el entorno de los materiales de uso aeronáutico, su interés derivó hacia la mejora de propiedades mecánicas y/o eléctricas mediante la introducción de nanopartículas, para lo cual se consiguió financiación a través de un Proyecto de Excelencia de la Junta de Andalucía (ref. P07-TEP-02732). Este trabajo de investigación se resume en una tesis doctoral (Dery Torres Uriona, 2012) y varios contratos con empresas del sector (EADS-CASA, Airbus Military, Grupo TAM). A partir de 2007 se implementa en el grupo de investigación la línea relativa al estudio de materiales de diamante para dispositivos electrónicos de potencia, línea a la que también se unió desde sus inicios en esta universidad, contribuyendo con la aplicación de técnicas de microscopía electrónica (TEM/STEM-HAADF-EELS) y en la que ha codirigido 4 trabajos de tesis doctoral. Esta línea se ha consolidado gracias a la obtención de 4 proyectos nacionales (refs. TEC2009-11399, TEC2014-54357-C2-2-R, TEC2017-86347-C2-1-R, PID2020-117201RB-C21, formando parte del equipo investigador en primero y último y actuando como co-IP en segundo y tercero), 2 proyectos autonómicos (refs. FEDER-UCA18-106470 y P20-00946) y a la participación en 1 proyecto europeo (GreenDiamond, ref. H2020-SC-SCEE-640947). En definitiva, la actividad investigadora de quien suscribe este currículum se caracteriza por su disposición a enfrentarse a nuevas líneas de investigación, resultando ello en una producción científica lejos de ser monolítica, actividad que ha compatibilizado con cargos de gestión académica unipersonal (Secretaria de Departamento, Directora de Departamento en funciones, Subdirectora de Departamento, periodo total ininterrumpido 2003-2013, Directora de Secretariado de Gestión de Personal -Vicerrectorado de Ordenación Académica y Profesorado- 2016-2019). Es coautora de más de 30 publicaciones científicas, casi 120 contribuciones a congresos tanto nacionales como internacionales y 3 patentes.

**MARIA DEL PILAR VILLAR CASTRO**

Surname(s):	VILLAR CASTRO
Name:	MARIA DEL PILAR
DNI:	
Dialnet:	4024070
ACAEDU:	https://independent.academia.edu/PilarVillar14
GOOSCH:	M5PfWeoAAAAJ
MSACADEMIC:	2145916092
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RODIN:	2006
RSCHGATE:	Mp-Villar
ResearcherID:	L-7701-2014
ScopusID:	7102570065
SEMANTICSC:	145961093
Date of birth:	
Gender:	Female
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Education

University education

Doctorates

Thesis title: Cristalización y desarrollo microestructural de mullitas dopadas con cromo

Thesis director: Rafael García Roja

Thesis co-director: Sergio I. Molina

Teaching experience

Experience supervising doctoral thesis and/or final year projects

- 1 Project title:** Hybrid-gate deep depletion mosfet: high-k zro2/diamond-based power devices
Type of project: Doctoral thesis
Co-director of thesis: Julien Pernot
Entity: Universidad de Cádiz
Student: Beatriz Soto Portillo
Date of reading: 2023
- 2 Project title:** Surfaces and interfaces characterization for the development of diamond power electronic devices
Type of project: Doctoral thesis
Co-director of thesis: Rodrigo Alcantara Puerto
Entity: Universidad de Cádiz
Student: Gonzalo Alba Muñoz
Date of reading: 2022
- 3 Project title:** Role of interface configuration in diamond-related power devices
Type of project: Doctoral thesis
Co-director of thesis: Daniel Araújo Gay
Entity: Universidad de Cádiz
Student: José Carlos Piñero Charlo
Date of reading: 2016
- 4 Project title:** Calidad cristalina e incorporación de boro en homoepitaxias de diamante
Type of project: Doctoral thesis
Co-director of thesis: Daniel Araújo Gay
Entity: Universidad de Cádiz
Student: Maria de la Paz Alegre Salguero
Date of reading: 2015



- 5** **Project title:** Contribución a la mejora de propiedades en resinas de uso aeronáutico mediante refuerzo con nanopartículas
Type of project: Doctoral thesis
Co-director of thesis: Daniel Araújo Gay
Entity: Universidad de Cádiz
Student: Dery Torres Uriona
Date of reading: 2012
- 6** **Project title:** Desarrollo y optimización del proceso de mecanizado láser de resina epoxi reforzada con fibra de carbono (CFRP)
Type of project: Doctoral thesis
Co-director of thesis: Daniel Araújo Gay
Entity: Universidad de Cádiz
Student: Antonio Juan García Fuentes
Date of reading: 2006

Scientific and technological experience

Research and development groups/teams

Name of the group: Ciencia e Ingeniería de los Materiales

Name of principal investigator: MARIA DEL PILAR VILLAR CASTRO **Number of members in the group:** 30

Affiliation entity: Universidad de Cádiz

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

- 1** **Name of the project:** Proyecto colaborativo: "SUPERCONDENSADORES DE DIAMANTE", que incluirá como principal elemento la realización de una Tesis Doctoral
Geographical area: Local
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI...): FERNANDO MANUEL LLORET VIEIRA
Nº of researchers: 3
Funding entity or bodies: UNIVERSIDAD DE CÁDIZ
Type of participation: Team member
Name of the programme: Programas Varios: Tesis Doctoral Industrial (financiada por la empresa). Programas Varios
Code according to the funding entity: TDI-PROUD
Start-End date: 18/12/2023 - 17/12/2028 **Duration:** 4 years - 11 months - 29 days
Total amount: 180.000 €



- 2** **Name of the project:** Chip optoactivado de diamante para convertidores de energía aeroespaciales.
Geographical area: National
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): FERNANDO MANUEL LLORET VIEIRA
Nº of researchers: 4
Funding entity or bodies: MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES
Type of participation: Team member
Name of the programme: Plan Nacional I+D+i: Subprograma Estatal de Transferencia de Conocimiento. Plan Nacional I+D+i
Code according to the funding entity: PDC2023-145907-I00
Start-End date: 01/01/2024 - 31/12/2025 **Duration:** 1 year - 11 months - 30 days
Total amount: 290.400 €
- 3** **Name of the project:** Nuevas configuraciones de puertas para MISFETs de diamante con canal opto-activado :crecimiento y caracterización
Geographical area: National
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY; FERNANDO MANUEL LLORET VIEIRA
Nº of researchers: 6
Funding entity or bodies: MINISTERIO DE CIENCIA E INNOVACIÓN
Type of participation: Team member
Name of the programme: Plan Nacional I+D+i: PID Modalidades Retos (RTI) y Generación de Conocimiento (PGC). Plan Nacional I+D+i
Code according to the funding entity: PID2020-117201RB-C21
Start-End date: 01/09/2021 - 31/05/2025 **Duration:** 3 years - 8 months - 30 days
Total amount: 228.932 €
- 4** **Name of the project:** DISEÑO Y DESARROLLO DE AGROCOMPOSITES MEDIANTE VALORIZACIÓN DE RESIDUOS (ECONOMÍA CIRCULAR)
Geographical area: Regional
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): MIGUEL SUFFO PINO
Nº of researchers: 8
Funding entity or bodies: CONSEJERÍA DE AGRICULTURA, GANADERÍA, PESCA Y DESARROLLO SOSTENIBLE - JUNTA DE ANDALUCÍA
Type of participation: Team member
Name of the programme: Programas Varios: (Grupos Operativos Asociación Europea de Innovación). Programas Varios
Code according to the funding entity: GO2020-10
Start-End date: 18/04/2022 - 18/10/2024 **Duration:** 2 years - 6 months
Total amount: 122.887,92 €



5 Name of the project: Volar con diamantes: Estructuras aeroespaciales CFRP conductoras eléctricas y térmicas

Geographical area: Regional

Degree of contribution: Miembro

Entity where project took place: Universidad de Cádiz **Type of entity:** University

Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY

Nº of researchers: 6

Funding entity or bodies:

CONSEJERIA DE ECONOMIA, CONOCIMIENTO, EMPRESAS Y UNIVERSIDADES

Type of participation: Team member

Name of the programme: Plan Andaluz de Investigación: Plan Andaluz de Investigación, Desarrollo e Innovación. Plan Andaluz de Investigación

Code according to the funding entity: P20-00946

Start-End date: 05/10/2021 - 31/03/2023

Duration: 1 year - 5 months - 26 days

Total amount: 100.000 €

6 Name of the project: NUEVAS ALEACIONES DE CARBONO SEMICONDUCTORAS PARA UNA NUEVA GENERACIÓN DE DISPOSITIVOS ELECTRÓNICOS (CARBOTRONICS-PUENTE)

Geographical area: Regional

Degree of contribution: Miembro

Entity where project took place: Universidad de Cádiz **Type of entity:** University

Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY

Nº of researchers: 5

Funding entity or bodies:

CONSEJERÍA DE ECONOMÍA Y CONOCIMIENTO - JUNTA DE ANDALUCÍA

Type of participation: Team member

Name of the programme: Programas Varios: PROYECTOS I+D+I FEDER. Programas Varios

Code according to the funding entity: FEDER-UCA18-106470

Start-End date: 01/04/2020 - 31/12/2021

Duration: 1 year - 8 months - 30 days

Total amount: 45.587,71 €

7 Name of the project: ARCHITECTURA 3D DE MOSFET ELABORADAS IN-SITU POR MPCVD PARA ELECTRÓNICA DE POTENCIA.

Geographical area: National

Degree of contribution: Coordinator of total project, network or consortium

Entity where project took place: Universidad de Cádiz **Type of entity:** University

Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY; MARIA DEL PILAR VILLAR CASTRO

Nº of researchers: 4

Funding entity or bodies:

MINISTERIO DE ECONOMÍA, INDUSTRIA Y COMPETITIVIDAD

Type of participation: Co-ordinator

Name of the programme: Plan Nacional I+D+i: Retos de la Sociedad. Plan Nacional I+D+i

Code according to the funding entity: TEC2017-86347-C2-1-R

Start-End date: 01/01/2018 - 30/09/2021

Duration: 3 years - 8 months - 29 days

Total amount: 156.090 €



- 8** **Name of the project:** Green Electronics with Diamond Power Devices-H2020-SC-SCEE-640947
Geographical area: European Union
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY
Nº of researchers: 6
Funding entity or bodies: UNIÓN EUROPEA
Type of participation: Team member
Name of the programme: Programas Europeos: Horizon 2020 - Societal Challenges (Secure, clean and efficient energy). Programas Europeos
Code according to the funding entity: 640947
Start-End date: 01/05/2015 - 30/04/2020 **Duration:** 4 years - 11 months - 29 days
Total amount: 220.000 €
- 9** **Name of the project:** DISPOSITIVO DE ALTO VOLTAJE PARA ELECTRONICA DE POTENCIA VERDE: RELACION NANOESTRUCTURA-FUNCION.
Geographical area: National
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY; MARIA DEL PILAR VILLAR CASTRO
Nº of researchers: 6
Funding entity or bodies: MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD
Type of participation: Co-ordinator
Name of the programme: Plan Nacional I+D+i: Retos de la Sociedad. Plan Nacional I+D+i
Code according to the funding entity: TEC2014-54357-C2-2-R
Start-End date: 01/01/2015 - 31/12/2018 **Duration:** 3 years - 11 months - 30 days
Total amount: 150.645 €
- 10** **Name of the project:** DIAMANTE PARA DISPOSITIVOS DE POTENCIA.
Geographical area: National
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY
Nº of researchers: 7
Funding entity or bodies: MINISTERIO DE INNOVACIÓN
Type of participation: Team member
Name of the programme: Plan Nacional I+D+i: Programa Nacional de Proyectos de Investigación Fundamental No Orientada. Plan Nacional I+D+i
Code according to the funding entity: TEC2009-11399/TEC
Start-End date: 01/01/2010 - 31/12/2012 **Duration:** 2 years - 11 months - 30 days
Total amount: 217.800 €



11 Name of the project: Mejora de la tenacidad de materiales aeronauticos: intrudcción de nanopartículas en resinas epoxi de polímeros reforzados (CFRP)

Geographical area: Regional

Degree of contribution: Miembro

Entity where project took place: Universidad de Cádiz **Type of entity:** University

Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY

Nº of researchers: 12

Funding entity or bodies:

CONSEJERÍA DE INNOVACIÓN, CIENCIA Y EMPRESA - JUNTA DE ANDALUCÍA

Type of participation: Team member

Name of the programme: Plan Andaluz de Investigación: Proyectos de Excelencia. Plan Andaluz de Investigación

Code according to the funding entity: P07-TEP-02732

Start-End date: 31/01/2008 - 31/01/2011

Duration: 3 years

Total amount: 307.668 €

12 Name of the project: EVALUACIÓN DEL IMPACTO DEL SUSTRATO SOBRE LA CALIDAD DE CAPAS DE INN PARA DISPOSITIVOS OPTOELECTRÓNICOS

Geographical area: National

Degree of contribution: Miembro

Entity where project took place: Universidad de Cádiz **Type of entity:** University

Name principal investigator (PI, Co-PI....): DAVID GONZALEZ ROBLEDO

Nº of researchers: 7

Funding entity or bodies:

MINISTERIO DE CIENCIA Y TECNOLOGÍA

Type of participation: Team member

Name of the programme: Plan Nacional I+D+i: Ayudas a proyectos de investigación . Plan Nacional I+D+i

Code according to the funding entity: MAT2004-01234

Start-End date: 13/12/2004 - 13/12/2007

Duration: 3 years

Total amount: 57.500 €

13 Name of the project: Mecanizado laser de fibra de carbono para la industria aeronáutica: Efecto sobre el comportamiento mecánico.

Geographical area: National

Degree of contribution: Coordinator of total project, network or consortium

Entity where project took place: Universidad de Cádiz **Type of entity:** University

Name principal investigator (PI, Co-PI....): MARIA DEL PILAR VILLAR CASTRO

Nº of researchers: 2

Funding entity or bodies:

MINISTERIO DE EDUCACIÓN Y CIENCIA

Type of participation: Co-ordinator

Name of the programme: Plan Nacional I+D+i: Ayudas a proyectos de investigación sobre medio ambiente. Plan Nacional I+D+i

Code according to the funding entity: CIT-370200-2005-13

Start-End date: 01/01/2005 - 31/12/2005

Duration: 11 months - 30 days

Total amount: 72.000 €



- 14** **Name of the project:** Ingeniería de aleaciones semiconductoras INGAAS(N) para aplicaciones en optoelectrónica.
Geographical area: National
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): DAVID GONZALEZ ROBLEDO
Nº of researchers: 5
Funding entity or bodies: MINISTERIO DE CIENCIA Y TECNOLOGÍA
Type of participation: Team member
Name of the programme: Plan Nacional I+D+i: Programa General. Plan Nacional I+D+i
Code according to the funding entity: MAT2001-3362
Start-End date: 28/12/2001 - 27/12/2004 **Duration:** 2 years - 11 months - 29 days
Total amount: 58.748,94 €
- 15** **Name of the project:** Estudio preliminar de viabilidad técnica de la implantación de metodologías láser en el corte de materiales compuestos de interés industrial
Geographical area: Regional
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): MARIA DEL PILAR VILLAR CASTRO
Nº of researchers: 1
Funding entity or bodies: CONSEJERÍA DE EMPLEO Y DESARROLLO TECNOLÓGICO - JUNTA DE ANDALUCÍA
Type of participation: Co-ordinator
Name of the programme: Programas Varios: Convenio de colaboración para financiar determinadas actuaciones. Programas Varios
Code according to the funding entity: CEDT/OTRI-10
Start-End date: 01/01/2003 - 10/11/2003 **Duration:** 10 months - 9 days
Total amount: 3.000 €

R&D non-competitive contracts, agreements or projects with public or private entities

- 1** **Name of the project:** CARACTERIZACION DE MATERIALES, DAÑO E IMPACTOS MEDIANTE ENSAYOS FISICOS, QUIMICOS Y DE MICROSCOPIA PARA INVESTIGACIONES EN MATERIALES Y PROTECCIONES ESTRUCTURALES FRENTE A IMPACTO.
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): MARIA DEL PILAR VILLAR CASTRO
Nº of researchers: 2
Funding entity or bodies: AIRBUS DEFENCE AND SPACE SA
Code according to the funding entity: OT2012/024
Start date: 01/03/2012 **Duration:** 9 months - 30 days
Total amount: 70.800 €



- 2** **Name of the project:** PROYECTO DESAFIO. POLIMEROS AERONAUTICOS CON PROPIEDADES MECANICAS MEJORADAS MEDIANTE NANOESTRUCTURAS
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): MARIA DEL PILAR VILLAR CASTRO
Nº of researchers: 3
Funding entity or bodies: AIRBUS DEFENCE AND SPACE SA
Code according to the funding entity: OT2012/089
Start date: 01/01/2012 **Duration:** 2 years - 11 months - 30 days
Total amount: 121.000 €
- 3** **Name of the project:** AUTOMATIZACION Y OPTIMIZACION DE PROCESOS DE CORTE Y TALADRADO DE MATERIALES COMPUESTOS POR LASER
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY
Nº of researchers: 2
Funding entity or bodies: TECNICAS AERONAUTICAS MADRID, S.L (TAM)
Code according to the funding entity: OT2011/050
Start date: 01/04/2010 **Duration:** 2 years - 29 days
Total amount: 141.600 €
- 4** **Name of the project:** CBC-DAICA-SOW04-UCA: ENSAYOS DE CARACTERIZACION MICROGRAFICA DE MATERIALES COMPUESTOS DEL PROYECTO DAICA
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): MARIA DEL PILAR VILLAR CASTRO
Nº of researchers: 1
Funding entity or bodies: AIRBUS DEFENCE AND SPACE SA
Code according to the funding entity: OT2008/163
Start date: 01/07/2008 **Duration:** 11 months - 29 days
Total amount: 40.832 €
- 5** **Name of the project:** NUEVA METODOLOGIA DE PERFORADO EN CHAPAS DE FIBRA DE CARBONO-MATERIALES METALICOS: APORTACION DEL LASER Y DE LA CRIOGENIA.
Degree of contribution: Miembro
Entity where project took place: Universidad de Cádiz **Type of entity:** University
Name principal investigator (PI, Co-PI....): DANIEL ARAUJO GAY
Nº of researchers: 3
Funding entity or bodies: AIRBUS OPERATIONS SLU
Code according to the funding entity: OT2001/078
Start date: 01/06/2001 **Duration:** 2 years - 11 months - 30 days



Total amount: 117.593,74 €

Results

Industrial and intellectual property

- 1** **Title registered industrial property:** TRANSISTOR METAL-AISLANTE-SEMICONDUCTOR DE EFECTO CAMPO (MISFET) DE DIAMANTE PARA ALTA POTENCIA CON CANAL OPTO-ACTIVADO Y PROCEDIMIENTO DE FABRICACIÓN DEL MISMO

Type of industrial property: Patent of invention

Inventors/authors/obtainers: LLORET VIEIRA Fernando Manuel; ARAUJO GAY Daniel; VILLAR CASTRO María Del Pilar

Nº of application: P202130489

Date of register: 31/05/2021

Conferral date: 30/03/2023

Nº of patent: 2929674

Spanish patent: Yes **EU patent:** No

International non-EU patent: No
- 2** **Title registered industrial property:** Procedimiento para determinar la tenacidad intrínseca de polímeros

Type of industrial property: Patent of invention

Inventors/authors/obtainers: TORRES URIONA Dery; ARAUJO GAY Daniel; ESTEVEZ Rafael; VILLAR CASTRO Pilar

Nº of application: P201500279

Date of register: 21/04/2015

Conferral date: 27/07/2017

Nº of patent: 2587909

Spanish patent: Yes **EU patent:** No

International non-EU patent: No
- 3** **Title registered industrial property:** METODO DE MECANIZADO LASER DE MATERIALES COMPUESTOS DE RESINA EPOXI REFORZADA CON FIBRAS DE CARBONO.

Type of industrial property: Patent of invention

Inventors/authors/obtainers: GARCIA FUENTESANTONIO JUAN; ARAUJO GAY DANIEL; VILLAR CASTRO PILAR; GARCIA ROJA RAFAEL; DIEZ MOUXJ. CARLOS; PEA TORREJ. IGNACIO; ESTEPA MILLANCARLOS; LOPEZ GASCONCLARISA

Nº of application: P200503143

Date of register: 21/12/2005

Conferral date: 27/04/2009

Nº of patent: 2302418

Spanish patent: Yes **EU patent:** No

International non-EU patent: No



Scientific and technological activities

Scientific production

Publications, scientific and technical documents

- 1** Michael McKinlay; Lewis Fleming; Manuel Pelayo García; Lucía Nieto Sierra; Pilar Villar Castro; Daniel Araujo; Basilio Javier García; Des Gibson; Carlos García Nuñez. On the Piezoelectric Properties of Zinc Oxide Thin Films Synthesized by Plasma Assisted DC Sputter Deposition. Advanced Materials Interfaces. Vol. 11, (Germany): John Wiley and Sons Inc, 14/11/2024. Available on-line at: <<https://doi.org/10.1002/admi.202400252>>. ISSN 2196-7350
DOI: 10.1002/ADMI.202400252
SCOPUS: 20244025624
Type of production: Scientific paper
Position of signature: 5
Total no. authors: 9
Impact source: SCOPUS
Impact index in year of publication: 1.154
Source of citations: SCOPUS
Source of citations: WOS
Format: Journal
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Journal in the top 25%: Yes
Citations: 2
Citations: 2
- 2** Miguel Suffo; Celia Pérez-Muñoz; Gonzalo Alba; María Pilar Villar. An Innovative Polypropylene/Waste Cork Composite Material for Spirit and Wine Stopper Caps. Applied Sciences (Switzerland). Vol. 14, (Switzerland): Multidisciplinary Digital Publishing Institute (MDPI), 01/04/2024. Available on-line at: <<https://doi.org/10.3390/app14073014>>. ISSN 2076-3417
DOI: 10.3390/APP14073014
SCOPUS: 20241911377
Type of production: Scientific paper
Position of signature: 4
Total no. authors: 4
Impact source: SCOPUS
Impact index in year of publication: 0.521
Source of citations: SCOPUS
Source of citations: WOS
Format: Journal
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Journal in the top 25%: No
Citations: 4
Citations: 2
- 3** Patrick S. Salter; M. Pilar Villar; Fernando Lloret; Daniel F. Reyes; Marta Krueger; Calum S. Henderson; Daniel Araujo; Richard B. Jackman. Laser Engineering Nanocarbon Phases within Diamond for Science and Electronics. ACS Nano. Vol. 18, pp. 2861 - 2871. (United States of America): American Chemical Society, 30/01/2024. Available on-line at: <<https://doi.org/10.1021/acsnano.3c07116>>. ISSN 1936-086X, ISSN 1936-0851
DOI: 10.1021/ACSNANO.3C07116
PMID: 38232330
SCOPUS: 20240419094
Type of production: Scientific paper
Position of signature: 2
Format: Journal

**Total no. authors:** 8**Impact source:** SCOPUS**Impact index in year of publication:** 4.497**Source of citations:** SCOPUS**Source of citations:** WOS**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Journal in the top 25%:** Yes**Citations:** 6**Citations:** 7

- 4** Soto B.; Couret M.; Cañas J.; Castelan A.; Rouger N.; Araujo D.; Villar M.P.; Pernot J. Non-volatile tuning of normally-on and off states of deep depletion ZrO₂/O-terminated high voltage diamond MOSFET. Diamond and Related Materials. Vol. 134, (United Kingdom): Elsevier Ltd, 01/04/2023. Available on-line at: <<https://doi.org/10.1016/j.diamond.2023.109802>>. ISSN 0925-9635

DOI: 10.1016/J.DIAMOND.2023.109802**SCOPUS:** 20230798794**Type of production:** Scientific paper**Position of signature:** 7**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 8**Impact source:** ISI**Impact index in year of publication:** 4.3**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.671**Journal in the top 25%:** No**Source of citations:** SCOPUS**Citations:** 7**Source of citations:** WOS**Citations:** 7

- 5** María de la Paz Alegre Salguero; Daniel Fernández de los Reyes; María del Pilar Villar Castro; Francisco José Pacheco Romero; José María Sánchez Amaya. Evolución de las enseñanzas prácticas post-COVID 19: estudio de un caso en el seno de los grados de ingeniería en tecnología industrial e ingeniería mecánica en la Universidad de Cádiz. Brazilian Journal of Development. Vol. 9, pp. 22973 - 22994. 2023. ISSN 2525-8761

Type of production: Scientific paper**Position of signature:** 3**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 5

- 6** Soto B.; Cañas J.; Villar M.P.; Araujo D.; Pernot J. Transport mechanism in O-terminated diamond/ZrO₂ based MOSCAPs. Diamond and Related Materials. Vol. 121, (United Kingdom): Elsevier Ltd, 01/01/2022. Available on-line at: <<https://doi.org/10.1016/j.diamond.2021.108745>>. ISSN 0925-9635

DOI: 10.1016/J.DIAMOND.2021.108745**SCOPUS:** 20214272776**Type of production:** Scientific paper**Position of signature:** 3**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 5**Impact source:** ISI**Impact index in year of publication:** 4.1**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.61**Journal in the top 25%:** No

**Source of citations:** SCOPUS**Citations:** 7**Source of citations:** WOS**Citations:** 8

- 7** Araujo D.; Lloret F.; Alba G.; Alegre M.P.; Villar M.P. Dislocation generation mechanisms in heavily boron-doped diamond epilayers. *Applied Physics Letters*. Vol. 118, (United States of America): American Institute of Physics Inc., 01/02/2021. Available on-line at: <<https://doi.org/10.1063/5.0031476>>. ISSN 0003-6951

DOI: 10.1063/5.0031476**SCOPUS:** 20210498532**Type of production:** Scientific paper**Position of signature:** 5**Total no. authors:** 5**Impact source:** ISI**Impact index in year of publication:** 3.971**Impact source:** SCOPUS**Impact index in year of publication:** 1.025**Source of citations:** SCOPUS**Source of citations:** WOS**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Journal in the top 25%:** No**Journal in the top 25%:** Yes**Citations:** 11**Citations:** 11

- 8** Alba G.; Leinen D.; Villar M.P.; Alcántara R.; Piñero J.C.; Fiori A.; Teraji T.; Araujo D. Comprehensive nanoscopic analysis of tungsten carbide/Oxygenated-diamond contacts for Schottky barrier diodes. *Applied Surface Science*. Vol. 537, (Holland): Elsevier B.V., 30/01/2021. ISSN 0169-4332

DOI: 10.1016/J.APSUSC.2020.147874**SCOPUS:** 20203536968**Type of production:** Scientific paper**Position of signature:** 3**Total no. authors:** 8**Impact source:** ISI**Impact index in year of publication:** 7.392**Impact source:** SCOPUS**Impact index in year of publication:** 1.147**Source of citations:** SCOPUS**Source of citations:** WOS**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Journal in the top 25%:** Yes**Journal in the top 25%:** Yes**Citations:** 3**Citations:** 3

- 9** Gonzalo Alba; Pilar Villar M.; Rodrigo Alcántara; Javier Navas; Daniel Araujo. Surface states of (100) o-terminated diamond: Towards other 1 × 1:O reconstruction models. *Nanomaterials*. Vol. 10, pp. 1 - 15. (Switzerland): MDPI AG, 01/06/2020. Available on-line at: <<https://doi.org/10.3390/nano10061193>>. ISSN 2079-4991

DOI: 10.3390/NANO10061193**SCOPUS:** 20202191208**Type of production:** Scientific paper**Position of signature:** 2**Total no. authors:** 5**Impact source:** ISI**Impact index in year of publication:** 5.076**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Journal in the top 25%:** Yes

**Impact source:** SCOPUS**Impact index in year of publication:** 0.919**Source of citations:** SCOPUS**Source of citations:** WOS**Journal in the top 25%:** Yes**Citations:** 20**Citations:** 19

- 10** Alba Gonzalo; Eon David; Villar M. Pilar; Alcántara Rodrigo; Chicot Gauthier; Cañas Jesús; Letellier Juliette; Pernot Julien; Araujo Daniel. H-Terminated Diamond Surface Band Bending Characterization by Angle-Resolved XPS. Surfaces. Vol. 3, pp. 61 - 71. MDPI, 2020. Available on-line at: <<https://www.mdpi.com/2571-9637/3/1/7>>. ISSN 2571-9637

DOI: 10.3390/SURFACES3010007**Type of production:** Scientific paper**Position of signature:** 3**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 9**Source of citations:** SCOPUS**Citations:** 14**Source of citations:** WOS**Citations:** 14

- 11** Piñero J.C.; Lloret F.; Alegre M.P.; Villar M.P.; Fiori A.; Bustarret E.; Araújo D. High resolution boron content profilometry at δ -doping epitaxial diamond interfaces by CTEM. Applied Surface Science. Vol. 461, pp. 221 - 226. (Holland): Elsevier B.V., 15/12/2018. ISSN 0169-4332

DOI: 10.1016/J.APSUSC.2018.07.097**SCOPUS:** 20182230693**Type of production:** Scientific paper**Position of signature:** 4**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 7**Impact source:** ISI**Impact index in year of publication:** 5.155**Journal in the top 25%:** Yes**Impact source:** SCOPUS**Impact index in year of publication:** 1.115**Journal in the top 25%:** No**Source of citations:** SCOPUS**Citations:** 2**Source of citations:** WOS**Citations:** 3

- 12** Dery Torres; Shu Guo; Maria-Pilar Villar; Daniel Araujo; Rafael Estevez. Calibration of a cohesive model for fracture in low cross-linked epoxy resins. Polymers. Vol. 10, (Switzerland): MDPI AG, 28/11/2018. Available on-line at: <<https://doi.org/10.3390/polym10121321>>. ISSN 2073-4360

DOI: 10.3390/POLYM10121321**SCOPUS:** 20183761568**Type of production:** Scientific paper**Position of signature:** 3**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 5**Impact source:** ISI**Impact index in year of publication:** 3.164**Journal in the top 25%:** Yes**Impact source:** SCOPUS**Impact index in year of publication:** 0.724**Journal in the top 25%:** Yes

**Source of citations:** SCOPUS**Citations:** 2**Source of citations:** WOS**Citations:** 2

- 13** Javier Navas; Daniel Araujo; José Carlos Piñero; Antonio Sánchez-Coronilla; Eduardo Blanco; Pilar Villar; Rodrigo Alcántara; Josep Montserrat; Matthieu Florentin; David Eon; Julien Pernot. Oxygen termination of homoepitaxial diamond surface by ozone and chemical methods: An experimental and theoretical perspective. Applied Surface Science. Vol. 433, pp. 408 - 418. (Holland): Elsevier B.V., 01/03/2018. ISSN 0169-4332

DOI: 10.1016/J.APSUSC.2017.10.065**SCOPUS:** 20170724657**Type of production:** Scientific paper**Position of signature:** 6**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 11**Impact source:** ISI**Impact index in year of publication:** 5.155**Journal in the top 25%:** Yes**Impact source:** SCOPUS**Impact index in year of publication:** 1.115**Journal in the top 25%:** No**Source of citations:** SCOPUS**Citations:** 46**Source of citations:** WOS**Citations:** 47

- 14** José C. Piñero; María P. Villar; Daniel Araujo; Josep Montserrat; Bernat Antúnez; Philippe Godignon. Impact of Thermal Treatments in Crystalline Reconstruction and Electrical Properties of Diamond Ohmic Contacts Created by Boron Ion Implantation. Physica Status Solidi (A) Applications and Materials Science. Vol. 214, (Germany): Wiley-VCH Verlag, 01/11/2017. ISSN 1862-6319, ISSN 1862-6300

DOI: 10.1002/PSSA.201700230**SCOPUS:** 20170935251**Type of production:** Scientific paper**Position of signature:** 2**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 6**Impact source:** ISI**Impact index in year of publication:** 1.795**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.648**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 10**Source of citations:** WOS**Citations:** 9

- 15** Piñero J.C.; Araújo D.; Fiori A.; Traoré A.; Villar M.P.; Eon D.; Muret P.; Pernot J.; Teraji T. Atomic composition of WC/ and Zr/O-terminated diamond Schottky interfaces close to ideality. Applied Surface Science. Vol. 395, pp. 200 - 207. (Holland): Elsevier B.V., 15/02/2017. ISSN 0169-4332

DOI: 10.1016/J.APSUSC.2016.04.166**Type of production:** Scientific paper**Position of signature:** 5**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 9**Impact source:** ISI**Impact index in year of publication:** 4.439**Journal in the top 25%:** Yes

**Impact source:** SCOPUS**Impact index in year of publication:** 1.093**Source of citations:** SCOPUS**Source of citations:** WOS**Journal in the top 25%:** No**Citations:** 24**Citations:** 23

- 16** Fernando Lloret; Daniel Araujo; David Eon; María del Pilar Villar; Juan-María Gonzalez-Leal; Etienne Bustarret. Influence of methane concentration on MPCVD overgrowth of 100-oriented etched diamond substrates. *Physica Status Solidi (A) Applications and Materials Science*. Vol. 213, pp. 2570 - 2574. (Germany): Wiley-VCH Verlag, 01/10/2016. ISSN 1862-6319, ISSN 1862-6300

DOI: 10.1002/PSSA.201600182**Type of production:** Scientific paper**Position of signature:** 4**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 6**Impact source:** ISI**Impact index in year of publication:** 1.775**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.694**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 13**Source of citations:** WOS**Citations:** 13

- 17** Lloret F.; Fiori A.; Araujo D.; Eon D.; Villar M.P.; Bustarret E. Stratigraphy of a diamond epitaxial three-dimensional overgrowth using doping superlattices. *Applied Physics Letters*. Vol. 108, (United States of America): American Institute of Physics Inc., 02/05/2016. ISSN 0003-6951

DOI: 10.1063/1.4948373**Type of production:** Scientific paper**Position of signature:** 5**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 6**Impact source:** ISI**Impact index in year of publication:** 3.411**Journal in the top 25%:** Yes**Impact source:** SCOPUS**Impact index in year of publication:** 1.673**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 17**Source of citations:** WOS**Citations:** 16

- 18** Muret P.; Traoré A.; Maréchal A.; Eon D.; Pernot J.; Piñero J.C.; Villar M.P.; Araujo D. Potential barrier heights at metal on oxygen-terminated diamond interfaces. *Journal of Applied Physics*. Vol. 118, (United States of America): American Institute of Physics Inc., 28/11/2015. ISSN 1089-7550, ISSN 0021-8979

DOI: 10.1063/1.4936317**Type of production:** Scientific paper**Position of signature:** 7**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 8**Impact source:** ISI

**Impact index in year of publication:** 2.101**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.821**Journal in the top 25%:** No**Source of citations:** SCOPUS**Citations:** 20**Source of citations:** WOS**Citations:** 21

- 19** Lloret F.; Araujo D.; Alegre M.P.; Gonzalez-Leal J.M.; Villar M.P.; Eon D.; Bustarret E. TEM study of defects versus growth orientations in heavily boron-doped diamond. *Physica Status Solidi (A) Applications and Materials Science*. Vol. 212, pp. 2468 - 2473. (Germany): Wiley-VCH Verlag, 2015. ISSN 1862-6319, ISSN 1862-6300

DOI: 10.1002/PSSA.201532175**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 5**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 7**Impact source:** ISI**Impact index in year of publication:** 1.648**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.665**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 16**Source of citations:** WOS**Citations:** 14

- 20** Alegre M.P.; Araújo D.; Fiori A.; Pinero J.C.; Lloret F.; Villar M.P.; Achatz P.; Chicot G.; Bustarret E.; Jomard F. Critical boron-doping levels for generation of dislocations in synthetic diamond. *Applied Physics Letters*. Vol. 105, (United States of America): American Institute of Physics Inc., 27/10/2014. ISSN 0003-6951

DOI: 10.1063/1.4900741**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 6**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 10**Impact source:** ISI**Impact index in year of publication:** 3.302**Journal in the top 25%:** Yes**Impact source:** SCOPUS**Impact index in year of publication:** 1.861**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 31**Source of citations:** WOS**Citations:** 31

- 21** Piñero J.C.; Araujo D.; Traoré A.; Chicot G.; Maréchal A.; Muret P.; Alegre M.P.; Villar M.P.; Pernot J. Metal-oxide-diamond interface investigation by TEM: Toward MOS and Schottky power device behavior. *Physica Status Solidi (A) Applications and Materials Science*. Vol. 211, pp. 2367 - 2371. (Germany): Wiley-VCH Verlag, 2014. ISSN 1862-6319, ISSN 1862-6300

DOI: 10.1002/PSSA.201431178**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 8**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 9

**Impact source:** ISI**Impact index in year of publication:** 1.616**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.688**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 7**Source of citations:** WOS**Citations:** 8

- 22** Lloret F.; Piñero J.; Araujo D.; Villar M.P.; Gheeraert E.; Vo-Ha A.; Soulière V.; Rebaud M.; Carole D.; Ferro G. Diamond as substrate for 3C-SiC growth: A TEM study. *Physica Status Solidi (A) Applications and Materials Science*. Vol. 211, pp. 2302 - 2306. (Germany): Wiley-VCH Verlag, 2014. ISSN 1862-6319, ISSN 1862-6300

DOI: 10.1002/PSSA.201431179**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 4**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 10**Impact source:** ISI**Impact index in year of publication:** 1.616**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.688**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 2**Source of citations:** WOS**Citations:** 1

- 23** Lloret F.; Araújo D.; Villar M.P.; Rodríguez-Madrid J.G.; Iriarte G.F.; Williams O.A.; Calle F. Diamond underlayer microstructure effect on the orientation of AlN piezoelectric layers for high frequency SAW resonators by TEM. *Microelectronic Engineering*. Vol. 112, pp. 193 - 197. (Holland): 2013. ISSN 0167-9317

DOI: 10.1016/J.MEE.2013.04.007**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 3**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 7**Impact source:** ISI**Impact index in year of publication:** 1.338**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.595**Journal in the top 25%:** No**Source of citations:** SCOPUS**Citations:** 11**Source of citations:** WOS**Citations:** 11

- 24** Fernández-Lorenzo C.; Araújo D.; González-Mañas M.; Martín J.; Navas J.; Alcántara R.; Villar M.P.; Bagriantsev D. Multi-technique analysis of high quality HPHT diamond crystal. *Journal of Crystal Growth*. Vol. 353, pp. 115 - 119. (Holland): 15/08/2012. ISSN 0022-0248

DOI: 10.1016/J.JCRYSGRO.2012.05.007**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 7**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 8

**Impact source:** ISI**Impact index in year of publication:** 1.552**Journal in the top 25%:** No**Impact source:** SCOPUS**Impact index in year of publication:** 0.954**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 13**Source of citations:** WOS**Citations:** 12

- 25** Rodríguez-Madrid J.G.; Iriarte G.F.; Araujo D.; Villar M.P.; Williams O.A.; Müller-Sebert W.; Calle F. Optimization of AlN thin layers on diamond substrates for high frequency SAW resonators. Materials Letters. Vol. 66, pp. 339 - 342. (Holland): 01/01/2012. ISSN 0167-577X

DOI: 10.1016/J.MATLET.2011.09.003**Type of production:** Scientific paper**Position of signature:** 4**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 7**Impact source:** ISI**Impact index in year of publication:** 2.224**Journal in the top 25%:** Yes**Impact source:** SCOPUS**Impact index in year of publication:** 0.917**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 59**Source of citations:** WOS**Citations:** 55

- 26** Daniel Araújo; Paz Alegre M.A.; Antonio J. García; Pilar Villar M.; Etienne Bustarret; Philipp Achatz; Pierre N. Volpe; Franck Omnès. Cross sectional evaluation of boron doping and defect distribution in homoepitaxial diamond layers. Physica Status Solidi (C) Current Topics in Solid State Physics. Vol. 8, pp. 1366 - 1370. (Germany): 05/2011. ISSN 1862-6351, ISSN 1610-1642

DOI: 10.1002/PSSC.201083991**Type of production:** Scientific paper**Position of signature:** 4**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 8**Impact source:** SCOPUS**Impact index in year of publication:** 0.453**Journal in the top 25%:** No**Source of citations:** SCOPUS**Citations:** 7**Source of citations:** WOS**Citations:** 6

- 27** Araújo D.; Alegre M.P.; García A.J.; Navas J.; Villar M.P.; Bustarret E.; Volpe P.N.; Omnès F. Influence of the substrate type on CVD grown homoepitaxial diamond layer quality by cross sectional TEM and CL analysis. Diamond and Related Materials. Vol. 20, pp. 428 - 432. (United Kingdom): 04/2011. ISSN 0925-9635

DOI: 10.1016/J.DIAMOND.2011.01.044**Type of production:** Scientific paper**Position of signature:** 5**Format:** Journal**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 8**Impact source:** ISI**Impact index in year of publication:** 1.913**Journal in the top 25%:** No

Impact source: SCOPUS

Impact index in year of publication: 1.016

Source of citations: SCOPUS

Source of citations: WOS

Journal in the top 25%: Yes

Citations: 6

Citations: 6

- 28** Fernández-Lorenzo C.; Araújo D.; Martín J.; Alcántara R.; Navas J.; Villar M.P.; Alegre M.P.; Volpe P.N.; Omnès F.; Bustarret E. Hydrogen passivation of boron acceptors in as-grown boron-doped CVD diamond epilayers. Diamond and Related Materials. Vol. 19, pp. 904 - 907. (United Kingdom): 08/2010. ISSN 0925-9635

DOI: 10.1016/J.DIAMOND.2010.02.030

Type of production: Scientific paper

Position of signature: 6

Format: Journal

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 10

Impact source: ISI

Impact index in year of publication: 1.825

Journal in the top 25%: No

Impact source: SCOPUS

Impact index in year of publication: 1.144

Journal in the top 25%: Yes

Source of citations: SCOPUS

Citations: 11

Source of citations: WOS

Citations: 11

- 29** Araújo D.; Achatz P.; El Bouayadi R.; García A.J.; Alegre M.P.; Villar M.P.; Jomard F.; Bustarret E. Local boron doping quantification in homoepitaxial diamond structures. Diamond and Related Materials. Vol. 19, pp. 972 - 975. (United Kingdom): 08/2010. ISSN 0925-9635

DOI: 10.1016/J.DIAMOND.2010.02.043

Type of production: Scientific paper

Position of signature: 6

Format: Journal

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 8

Impact source: ISI

Impact index in year of publication: 1.825

Journal in the top 25%: No

Impact source: SCOPUS

Impact index in year of publication: 1.144

Journal in the top 25%: Yes

Source of citations: SCOPUS

Citations: 10

Source of citations: WOS

Citations: 10

- 30** Araújo D.; Bustarret E.; Tajani A.; Achatz P.; Gutiérrez M.; García A.J.; Villar M.P. Comparison of the crystalline quality of homoepitaxially grown CVD diamond layer on cleaved and polished substrates. Physica Status Solidi (A) Applications and Materials. Vol. 207, pp. 2023 - 2028. (Germany): Wiley-VCH Verlag, 2010. ISSN 1862-6319, ISSN 1862-6300

DOI: 10.1002/PSSA.201000141

SCOPUS: 20107679768

Type of production: Scientific paper

Position of signature: 7

Format: Journal

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 7



Impact source: ISI

Impact index in year of publication: 1.472

Journal in the top 25%: No

Impact source: SCOPUS

Impact index in year of publication: 0.871

Journal in the top 25%: Yes

Source of citations: SCOPUS

Citations: 9

Source of citations: WOS

Citations: 9

- 31** Villar M.P.; Alegre Ma.P.; Araujo D.; Bustarret E.; Achatz P.; Saminadayar L.; Bauerle C.; Williams O.A. A microstructural study of superconductive nanocrystalline diamond. *Physica Status Solidi (A) Applications and Materials Science*. Vol. 206, pp. 1986 - 1990. (Germany): 10/2009. ISSN 1862-6300, ISSN 1862-6319

DOI: 10.1002/PSSA.200982224

Type of production: Scientific paper

Format: Journal

Position of signature: 1

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 8

Impact source: ISI

Impact index in year of publication: 1.228

Journal in the top 25%: No

Impact source: SCOPUS

Impact index in year of publication: 0.912

Journal in the top 25%: Yes

Source of citations: SCOPUS

Citations: 5

Source of citations: WOS

Citations: 4

- 32** Luis Gago Duport; Rafael García Roja; M. Pilar Villar Castro. Comportamiento de mullitas a alta temperatura: Estudio mediante Difracción de Rayos X. *Boletín de la Sociedad Española de Cerámica y Vidrio*. Vol. 43, pp. 135 - 137. (Spain): Sociedad Española de Cerámica y Vidrio, 2004. ISSN 0366-3175

DIALNET_ART: 886234

DOI: 10.3989/CYV.2004.V43.I2.485

Type of production: Scientific paper

Format: Journal

Position of signature: 3

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 3

Impact source: ISI

Impact index in year of publication: 0.31

Journal in the top 25%: No

Impact source: SCOPUS

Impact index in year of publication: 0.198

Journal in the top 25%: No

Source of citations: SCOPUS

Citations: 4

Source of citations: WOS

Citations: 4

- 33** Baudín C.; Villar M.P. Microstructural and microchemical analysis of the creep damage in mullite tested in flexure. *Journal of the European Ceramic Society*. Vol. 22, pp. 2647 - 2655. (United Kingdom): 2002. ISSN 0955-2219

DOI: 10.1016/S0955-2219(02)00129-2

Type of production: Scientific paper

Format: Journal

Position of signature: 2

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 2

**Impact source:** ISI**Impact index in year of publication:** 1.142**Journal in the top 25%:** Yes**Impact source:** SCOPUS**Impact index in year of publication:** 1.027**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 9**Source of citations:** WOS**Citations:** 7

- 34** Rita Baranwal; Maria P. Villar; Rafael Garcia; Richard M. Laine. Flame Spray Pyrolysis of Precursors as a Route to Nano-mullite Powder: Powder Characterization and Sintering Behavior. Journal of the American Ceramic Society. Vol. 84, pp. 951 - 961. (United States of America): American Ceramic Society, 2001. ISSN 0002-7820

DOI: 10.1111/J.1151-2916.2001.TB00774.X**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 2**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 4**Impact source:** ISI**Impact index in year of publication:** 1.748**Journal in the top 25%:** Yes**Impact source:** SCOPUS**Impact index in year of publication:** 2.324**Journal in the top 25%:** Yes**Source of citations:** SCOPUS**Citations:** 80**Source of citations:** WOS**Citations:** 68

- 35** M. Pilar Villar Castro. Aplicación de la termodifractometría de neutrones al estudio de procesos de cristalización en mullitas sol-gel. Boletín de la Sociedad Española de Cerámica y Vidrio. Vol. 39, pp. 564 - 568. (Spain): Sociedad Española de Cerámica y Vidrio, 2000. ISSN 0366-3175

DIALNET_ART: 2889312**DOI:** 10.3989/CYV.2000.V39.I4.820**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 1**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 1**Impact source:** ISI**Impact index in year of publication:** 0.099**Journal in the top 25%:** No**Source of citations:** WOS**Citations:** 0

- 36** Carmen Baudín; María Pilar Villar. Influence of thermal aging on microstructural development of mullite containing alkalis. Journal of the American Ceramic Society. Vol. 81, pp. 2741 - 2745. (United States of America): American Ceramic Society, 1998. ISSN 0002-7820

DOI: 10.1111/J.1151-2916.1998.TB02690.X**SCOPUS:** 20098459924**Type of production:** Scientific paper**Format:** Journal**Position of signature:** 2**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee**Total no. authors:** 2**Impact source:** ISI**Impact index in year of publication:** 1.539**Journal in the top 25%:** Yes



Source of citations: SCOPUS

Citations: 23

- 37** M. Pilar Villar Castro; Luis Gago Duport; R. García Alamilla. Influencia de la introducción de dopantes en la composición final de cristales de mullita. Boletín de la Sociedad Española de Cerámica y Vidrio. Vol. 36, pp. 146 - 151. (Spain): Sociedad Española de Cerámica y Vidrio, 1997. ISSN 0366-3175
DIALNET_ART: 4585768
Type of production: Scientific paper
Position of signature: 1
Format: Journal
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 3
- 38** Luis Gago Duport; Francisco de Borja López Aguayo; M. Pilar Villar Castro. Características geoquímicas y mineralógicas asociadas al proceso de formación de mullita en ambientes naturales. Boletín de la Sociedad Española de Mineralogía. Vol. 17, pp. 222 - 223. (Spain): Sociedad Española de Mineralogía, 1994. Available on-line at: <http://www.semineral.es/websem/PdfServlet?mod=archivos&subMod=publicaciones&archivo=Bol_Soc_Esp_Min_17_1.pdf>. ISSN 0210-6558
DIALNET_ART: 4633208
Type of production: Scientific paper
Position of signature: 3
Format: Journal
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 3
- 39** Teresa Ben Fernández; Serafín Bernal Márquez; Ginesa Blanco Montilla; Manuel Bethencourt Núñez; Miguel Ángel Cauqui López; Isaac de los Ríos Hierro; María Jesús Fernández Trujillo Rey; Marina Gutiérrez Peinado; María de los Ángeles Máñez Muñoz; Francisco Miguel Morales Sanchez; Francisco José Pacheco Romero; José María Pintado Caña; Susana Trasobares Llorente; Hilario Vidal; M. Pilar Villar Castro. Investigación-acción en la Formación del Profesorado: cambio de mentalidad y diseño de un modelo educativo fundamentado en un proceso dialógico. Actividades de los Grupos de Formación del Profesorado de la Universidad de Cádiz 2005-2006. pp. 201 - 208. (Spain): Servicio de Publicaciones, 2007. ISBN 978-84-9828-112-5
DIALNET_ART: 8868335
Type of production: Book chapter
Position of signature: 15
Format: Book
Degree of contribution: Author or co-author of chapter in book
Total no. authors: 15
- 40** Rodrigo Alcantara Puerto; Maria Isabel Arufe Martinez; Francisco Benítez Trujillo; Eduardo Blanco Ollero; Ana Maria Blandino Garrido; M. Santos Bruzon Gallego; Gema Cabrera Revuelta; Antonia Castaño Martínez; Nicolás de la Rosa Fox; Isaac de los Ríos Hierro; Manuel Domínguez de la Vega; María del Carmen Edreira Sánchez; C. Fernández-Lorenzo; María Jesús Fernández Trujillo Rey; Antonio Gámez Mellado; Manuel García Vargas; A. Gil Montero; José Manuel Gómez Montes de Oca; David González Robledo; M. D. Gordillo Romero; et al. La experiencia del grupo de formación sobre el aula virtual de la Facultad de Ciencias. Actividades de los Grupos de Formación del Profesorado de la Universidad de Cádiz 2005-2006. pp. 147 - 158. (Spain): Servicio de Publicaciones, 2007. ISBN 978-84-9828-112-5
DIALNET_ART: 8868341
Type of production: Book chapter
Position of signature: 41
Format: Book
Degree of contribution: Author or co-author of chapter in book
Total no. authors: 41
- 41** Daniel Araujo; Mariko Suzuki; Fernando Lloret; Gonzalo Alba; Pilar Villar. Diamond for electronics: Materials, processing and devices. Materials. (Switzerland): MDPI, 01/11/2021. Available on-line at: <<https://doi.org/10.3390/ma14227081>>. ISSN 1996-1944
DOI: 10.3390/MA14227081

**SCOPUS:** 20213994642**Type of production:** Bibliographic review**Position of signature:** 5**Total no. authors:** 5**Impact source:** ISI**Impact index in year of publication:** 3.748**Impact source:** SCOPUS**Impact index in year of publication:** 0.604**Source of citations:** SCOPUS**Source of citations:** WOS**Degree of contribution:** Author or co-author of review**Journal in the top 25%:** Yes**Journal in the top 25%:** No**Citations:** 52**Citations:** 50

Works submitted to national or international conferences

1 Title of the work: TEM study of superconducting polycrystalline diamond

Name of the conference: Conference of the E-MRS Symposium F**Type of event:** Conference**City of event:** Strasbourg, France**Date of event:** 2010**End date:** 2010

M. P. Alegre; M. P. Villar; D. Araujo; E. Bustarret; T. Capron; O. A. Williams. "TEM study of superconducting polycrystalline diamond". En: 2010 WIDE BANDGAP CUBIC SEMICONDUCTORS: FROM GROWTH TO DEVICES. Vol. 1292, pp. 133 - 134. AMER INST PHYSICS, 01/01/2010. ISSN 0094-243X, ISBN 978-0-7354-0847-0

WOS: WOS:000286950900033

2 Title of the work: Mecanizado láser de resina epoxi reforzada con fibra de carbono mediante múltiples pasadas

Name of the conference: Congreso Nacional de Materiales (9. 2006. Vigo)**Type of event:** Conference**City of event:** Vigo, Spain**Date of event:** 2006**Publication in conference proceedings:** Yes

Antonio Juan García Fuentes; M. Pilar Villar Castro; Daniel Araújo Gay; Clarisa López Gascón; Juan Carlos Díez Moñux; Carlos Estepa Millán; José Ignacio Peña Torre; Rafael García Roja. En: Perspectiva de la investigación sobre materiales en España en el siglo XXI. Vol. 1, pp. 611 - 614. (Spain): Servizo de Publicacións, 2006. ISBN 84-8158-325-1, ISBN 84-8158-322-7

DIALNET_ART: 2341159

3 Title of the work: Strain relaxation in step and linearly-graded InGaAs buffer layers on (001)GaAs

Name of the conference: Institute-of-Physics Conference on Microscopy of Semiconducting Materials 1995**Type of event:** Conference**City of event:** OXFORD, United Kingdom**Date of event:** 1995**End date:** 1995

FJ Pacheco; D Gonzalez; SI Molina; MP Villar; A Sacedon; E Calleja; R Garcia. "Strain relaxation in step and linearly-graded InGaAs buffer layers on (001)GaAs". En: MICROSCOPY OF SEMICONDUCTING MATERIALS 1995. Vol. 146, pp. 211 - 214. IOP PUBLISHING LTD, 01/01/1995. ISSN 0951-3248, ISBN 0-7503-0347-6

WOS: WOS:A1995BE73Q00041



- 4** **Title of the work:** A transmission electron microscopy study of the effect of a dopant addition in a 3:2 mullite
Name of the conference: 13th International Congress on Electron Microscopy
Type of event: Conference
City of event: PARIS, France
Date of event: 1994
End date: 1994
Publication in conference proceedings: Yes
MP VILLAR; JM GERALDIA; R GARCIA. En: ELECTRON MICROSCOPY 1994, VOLS 2A AND 2B. pp. 827 - 828. EDITIONS PHYSIQUE, 01/01/1994. ISBN 2-86883-226-1
WOS: WOS:A1994BE09Y00401
- 5** **Title of the work:** Carbon Fiber Reinforced Polymers (CFRP) Nd:YAG laser machining
Publication in conference proceedings: Yes
Antonio J. García; M. Pilar Villar; Daniel Araújo; J. Fabián García-Motolinia; Elisabet Ribera; Carlos Díez; Clarisa López-Gascón; Carlos Estepa; José I. Peña; Rafael García. "Carbon Fiber Reinforced Polymers (CFRP) Nd:YAG laser machining". En: ICALEO 2004 - 23rd International Congress on Applications of Laser and Electro-Optics, Congress Proceedings. (United States of America): Laser Institute of America, 2004. ISBN 9780912035772
DOI: 10.2351/1.5060257
SCOPUS: 20101272032
- 6** **Title of the work:** Structural disorder and thermal dilatation behavior in Cr-doped mullite
Publication in conference proceedings: Yes
Villar M.P.; Geraldía J.M.; Gago-Duport L."Structural disorder and thermal dilatation behavior in Cr-doped mullite". En: Materials Research Society Symposium - Proceedings. Vol. 346, pp. 757 - 762. Materials Research Society, 1994. ISSN 0272-9172
DOI: 10.1557/PROC-346-757
SCOPUS: 20098181522
- 7** **Title of the work:** Microchemical analysis and microstructural development of Cr-doped mullites
M. Pilar Villar; José M. Geraldía; Sergio I. Molina; Rafael García. "Microchemical analysis and microstructural development of Cr-doped mullites". En: Microchimica Acta. Vol. 145 - Num. 1-4, pp. 255 - 260. (Austria): Springer New York, 2004. ISSN 0026-3672
DOI: 10.1007/S00604-003-0163-5
- 8** **Title of the work:** Microstructural study of CO₂ laser machined heat affected zone of 2024 aluminum alloy
Araújo D.; Carpio F.J.; Méndez D.; García A.J.; Villar M.P.; García R.; Jiménez D.; Rubio L."Microstructural study of CO₂ laser machined heat affected zone of 2024 aluminum alloy". En: Applied Surface Science. Vol. 208-209 - Num. 1, pp. 210 - 217. (Holland): Elsevier, 15/03/2003. ISSN 0169-4332
DOI: 10.1016/S0169-4332(02)01375-2
- 9** **Title of the work:** Fatigue behaviour of laser machined 2024 T3 aeronautic aluminium alloy
Carpio F.J.; Araújo D.; Pacheco F.J.; Méndez D.; García A.J.; Villar M.P.; García R.; Jiménez D.; Rubio L."Fatigue behaviour of laser machined 2024 T3 aeronautic aluminium alloy". En: Applied Surface Science. Vol. 208-209 - Num. 1, pp. 194 - 198. (Holland): Elsevier, 15/03/2003. ISSN 0169-4332
DOI: 10.1016/S0169-4332(02)01369-7
- 10** **Title of the work:** Si NWs conversion to Si-SiC core-shell NWs by MBE
Lloret F.; Araujo D.; Villar M.P.; Liu L.; Zekentes K."Si NWs conversion to Si-SiC core-shell NWs by MBE". En: Materials Science Forum. Vol. 821-823, pp. 965 - 969. (Switzerland): Trans Tech Publications Ltd, 2015. ISSN 1662-9752, ISSN 0255-5476, ISBN 9783038354789



DOI: 10.4028/WWW.SCIENTIFIC.NET/MSF.821-823.965

SCOPUS: 20202282163

11 Title of the work: Fabrication of high frequency SAW resonators using AlN/Diamond/Si technology

Publication in conference proceedings: Yes

Iriarte G.F.; Rodríguez J.G.; Ro R.; Lee R.; Williams O.A.; Araujo D.; Villar M.P.; Calle F. "Fabrication of high frequency SAW resonators using AlN/Diamond/Si technology". En: IEEE International Ultrasonics Symposium, IUS. pp. 573 - 576. (United States of America): 2011. ISSN 1948-5719, ISSN 1948-5727, ISBN 9781457712531

DOI: 10.1109/ULTSYM.2011.0138

12 Title of the work: Sputter optimization of AlN on diamond substrates for high frequency SAW resonators

Publication in conference proceedings: Yes

Rodríguez J.G.; Iriarte G.F.; Calle F.; Araujo D.; Villar M.P.; Williams O.A. "Sputter optimization of AlN on diamond substrates for high frequency SAW resonators". En: Proceedings of the 8th Spanish Conference on Electron Devices, CDE'2011. (United States of America): IEEE Computer Society, 2011. ISBN 9781424478637

DOI: 10.1109/SCED.2011.5744181

SCOPUS: 20183371849

13 Title of the work: TEM study of superconducting polycrystalline diamond

Publication in conference proceedings: Yes

Alegre M.P.; Villar M.P.; Araújo D.; Bustarret E.; Capron T.; Williams O.A. "TEM study of superconducting polycrystalline diamond". En: AIP Conference Proceedings. Vol. 1292, pp. 133 - 136. (United States of America): 2010. ISSN 0094-243X, ISSN 1551-7616, ISBN 9780735408470

DOI: 10.1063/1.3518279

14 Title of the work: Manufacture of Sustainable Cork Stoppers for Spirits Through Compression Molding

Miguel Suffo Pino; Iván Martín Alconchel; Pilar Villar Castro. "Manufacture of Sustainable Cork Stoppers for Spirits Through Compression Molding". En: Lecture Notes in Mechanical Engineering. pp. 465 - 477. (Germany): Springer Science and Business Media Deutschland GmbH, 2025. ISSN 2195-4364, ISSN 2195-4356, ISBN 9783031728280

DOI: 10.1007/978-3-031-72829-7_37

SCOPUS: 20251546453