

Aluminate-based nanostructured luminescent materials : design of processing and functional properties

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; Fernandez, Jose Francisco; **Hussainova, Irina** Materials 2021 / art. 4591 <https://doi.org/10.3390/ma14164591> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Bidirectional Mo4/3CTx MXene/graphene aerogels for tailored microwave absorption

Shamshirgar, Ali Saffar; Qin, Lei; **Rojas Hernandez, Rocio Estefania**; Halim, Joseph; Fernandez, Jose F.; **Hussainova, Irina**; Rosen, Johanna ACS Applied Nano Materials 2025 / p. 1978–1990 <https://doi.org/10.1021/acsanm.4c06555>

Boosting phosphorescence efficiency by crystal anisotropy in SrAl2O4:Eu,Dy textured ceramic layers

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; Serrano, Aida; **Hussainova, Irina**; Fernandez, Jose Francisco Journal of the European Ceramic Society 2020 / p. 1677–1683 : ill <https://doi.org/10.1016/j.jeurceramsoc.2019.11.019> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cost-effective screen printing approach for Ce/Nd-doped ZnAl2O4 films: tuning crystallinity induced by the substrate

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; **Necib, Jallouli**; **Danilson, Mati**; Fernandez, Jose Francisco; **Hussainova, Irina** Physical chemistry chemical physics 2023 / p. 15829–15838 <https://doi.org/10.1039/D3CP02005C> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Deep-ultraviolet emitter : rare-earth-free ZnAl2O4 nanofibers via a simple wet chemical route

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; Romet, Ivo; Del Campo, Adolfo; Gorni, Giulio; **Hussainova, Irina**; Fernandez, Jose Francisco; Nagirnyi, Vitali Inorganic Chemistry 2022 / p. 11886–11896 <https://doi.org/10.1021/acs.inorgchem.2c01646> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of Rare-Earth-Free Zinc Silicate as a Novel Deep UV Emitter : Synthesis Strategies and Luminescent Properties = Haruldaste muldmetallide vaba tsinksilikaadi kui uue süva-UV kiirguri arendus : sünteesistrateegiad ja luminesentsomadused

Necib, Jallouli 2025 <https://digikogu.taltech.ee/et/Item/67078497-d42a-4e55-8a09-d665a3a023b1> <https://doi.org/10.23658/taltech.63/2025> https://www.eester.ee/record=b5754738*est

Doping engineering for controlled hydration and mechanical properties in Portland cement mortar with ultra-low ZnO concentration

Tamashiro, Jacqueline Roberta; de la Rubia, Miguel Angel; Rubio-Marcos, Fernando; **Rojas Hernandez, Rocio Estefania**; Silva, Lucas Henrique Pereira; de Paiva, Fabio Friol Guedes; Kinoshita, Angela; Terrades, Amparo Moragues Journal of building engineering 2023 / art. 107748 <https://doi.org/10.1016/j.jobe.2023.107748> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effect of annealing temperature of brownish-red pigment based on iron oxide extracted by hydrothermal route from mill-scale steel slag

Eticha, Zekarias G.; **Rojas Hernandez, Rocio Estefania**; **Hussainova, Irina** Journal of Sustainable Metallurgy 2022 / p. 218–227 <https://doi.org/10.1007/s40831-021-00470-z> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effect of silica precursor on the synthesis of Zn2SiO4-based material

Rojas Hernandez, Rocio Estefania; **Hussainova, Irina**; **Necib, Jallouli** Proceedings of the Estonian Academy of Sciences 2025 / p. 217–221 <https://doi.org/10.3176/proc.2025.2.24>

Elucidating reaction mechanism by molten salt of potential rare-earth-free Zn2SiO4 UV-B emitter: Insights into morphology and emission features

Necib, Jallouli; **Feldbach, Eduard**; **Romet, Ivo**; **Nagirnyi, Vitali**; **Hussainova, Irina**; **Jüstel, Thomas**; **Rojas Hernandez, Rocio Estefania** Ceramics international 2025 / p. 34922–34931 : ill <https://doi.org/10.1016/j.ceramint.2025.05.212>

Enhancing NIR emission in ZnAl2O4:Nd,Ce nanofibers by co-doping with Ce and Nd: a promising biomarker material with low cytotoxicity

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; Gorni, Giulio; Marini, Carlo; **Danilson, Mati**; Pascual, Laura; Ichikawa, Rodrigo Uchida; **Hussainova, Irina**; Fernandez, Jose Francisco Journal of materials chemistry C 2021 / p. 657–670 : ill <https://doi.org/10.1039/D0TC04752J> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Erratum: A feasible pathway to stabilize monoclinic and tetragonal phase coexistence in barium titanate-based ceramics (J. Mater. Chem. C (2022) 10 (17743–17756) DOI: 10.1039/D2TC04265G)

Necib, Jallouli; Lopez-Sanchez, Jesus; Rubio-Marcos, Fernando; Serrano, Aida; Navarro, Elena; Pena, Alvaro; Taoufik, Mnasri; Smari, Mourad; **Rojas Hernandez, Rocio Estefania**; Carmona, Noemi; Marín, Pilar Journal of materials chemistry C 2023 / p. 2397 <https://doi.org/10.1039/d3tc90020g> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A feasible pathway to stabilize monoclinic and tetragonal phase coexistence in barium titanate-based ceramics

Necib, Jallouli; Lopez-Sanchez, Jesus; Rubio-Marcos, Fernando; Serrano, Aida; Navarro, Elena; Pena, Alvaro; Taoufik, Mnasri; Smari, Mourad; **Rojas Hernandez, Rocio Estefania**; Carmona, Noemi; Marín, Pilar Journal of materials chemistry C 2022 / p. 17743–17756 <https://doi.org/10.1039/D2TC04265G> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Frequency conversion in lanthanide-doped sol-gel derived materials for energy applications

Almeida, Rui M.; Sousa, N.; **Rojas Hernandez, Rocio Estefania**; Santos, Luis F. Journal of Sol-Gel science and technology 2020 / p. 520-529 : ill <https://doi.org/10.1007/s10971-020-05289-w> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Functionally graded tunable microwave absorber with graphene-augmented alumina nanofibers

Shamshirgar, Ali Saffar; **Rojas Hernandez, Rocio Estefania**; Tewari, Girish C.; Fernandez, Jose Francisco; **Ivanov, Roman**; Karppinen, Maarit; **Hussainova, Irina** ACS applied materials & interfaces 2021 / p. 21613-21625
<https://doi.org/10.1021/acsami.1c02899> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Highly textured zinc aluminate: Nd, Ce films over sapphire for NIR emitting applications

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; Serrano, Aida; Roman-Sanchez, Sara; Fernandez, Jose Francisco; **Hussainova, Irina** Ceramics international 2023 / p. 13125 - 13130 <https://doi.org/10.1016/j.ceramint.2022.12.190> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Impact of fuel quantity on luminescence properties of Sr3Al2O6 : Eu by combustion synthesis

Barbosa, Williams; Álvarez-Docio, C. M.; Garcia-Carrodeguas, R.; Fook, M. V. L.; **Rojas Hernandez, Rocio Estefania**; Rodríguez, M. A. Cerâmica 2023 / p. 17-22 <https://doi.org/10.1590/0366-69132023693893379> [Journal metrics at Scopus](#) [Article at Scopus](#)

Investigation of deep UV emission of rare-earth-free Zn2SiO4 micropowders : the correlation of structural and luminescence properties

Necib, Jallouli; Feldbach, Eduard; Romet, Ivo; Nagirnyi, Vitali; **Hussainova, Irina**; **Rojas Hernandez, Rocio Estefania** Journal of luminescence 2025 / art. 121070 <https://doi.org/10.1016/j.jlumin.2025.121070>

Layered structure of alumina/graphene-augmented-inorganic-nanofibers with directional electrical conductivity

Saffarshamshirgar, Ali; **Rojas Hernandez, Rocio Estefania**; Mikli, Valdek; Karppinen, Maarit; **Hussainova, Irina** Carbon 2020 / p. 634-645 <https://doi.org/10.1016/j.carbon.2020.06.038> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Light-induced strain and its correlation with the optical absorption at charged domain walls in polycrystalline ferroelectrics

Rubio-Marcos, Fernando; Pamies, Paula; Del Campo, Adolfo; Tiana, Jordi; Ordonez-Pimentel, Jonathan; Venet, Michel; **Rojas Hernandez, Rocio Estefania**; Ochoa, Diego A.; Fernandez, Jose F.; García, Jose E. Applied materials today 2023 / art. 101838
<https://doi.org/10.1016/j.apmt.2023.101838> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

On the potential of Transparent Rare-Earth-Free ZnAl2O4 Ceramics targeted at the UV-C to UV-B emission

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; Romet, Ivo; Feldbach, Eduard; Buryi, Maksym; John, David; **Ivanov, Roman**; **Hussainova, Irina**; Fernandez, José F.; Nagirnyi, Vitali Applied materials today 2024 / ar. 102230, 14 p. : ill
<https://doi.org/10.1016/j.apmt.2024.102230> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

One-dimensional multilayer photonic crystals

Almeida, Rui M.; **Rojas Hernandez, Rocio Estefania**; Santos, Luis F. Sol-gel derived optical and photonic materials 2021 / p. 75-94 : ill <https://doi.org/10.1016/B978-0-12-818019-8.00004-1>

Optical spectroscopy methods for the characterization of sol-gel materials

Marques, Ana C.; **Rojas Hernandez, Rocio Estefania**; Almeida, Rui M. Journal of Sol-Gel science and technology 2021 / 43 p. : ill
<https://doi.org/10.1007/s10971-021-05592-0> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Photocontrolled strain in polycrystalline ferroelectrics via domain engineering strategy

Rubio-Marcos, Fernando; Del Campo, Adolfo; Ordonez-Pimentel, Jonathan; Venet, Michel; **Rojas Hernandez, Rocio Estefania**; Paez-Margarit, David; Ochoa, Diegi A.; Fernandez, Jose Francisco; Garcia, Jose E. ACS applied materials and interfaces ACS applied materials & interfaces 2021 / p. 20858-20864 <https://doi.org/10.1021/acsami.1c03162> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Sol-gel derived optical and photonic materials

2021 <https://doi.org/10.1016/C2018-0-02962-X>

Sol-gel derived phosphors for optical applications : chapter 11

Rojas Hernandez, Rocio Estefania; Santos, Luis F.; Almeida, Rui M. Sol-gel derived optical and photonic materials 2020 / p. 253-270 : ill <https://doi.org/10.1016/B978-0-12-818019-8.00011-9>

Spinel to disorder rock-salt structural transition on (111) nickel ferrite thin films tailored by Ni content

Prieto, P.; Serrano, Aida; **Rojas Hernandez, Rocio Estefania**; Gorgojo, S.; Prieto, Jose Emilio; Soriano, L. Journal of alloys and compounds 2022 / art. 164905 <https://doi.org/10.1016/j.jallcom.2022.164905> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

SrAl₂O₄ : Eu,Dy-screen-printed layers to create phosphorescent 2D shapes

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; Serrano-Iova, Radu-Antonio; Fernandes Lozano, J. F.; **Hussainova, Irina** XVI Conference and Exhibition Of The European Ceramic Society : abstract book 2019 / p. 525 : ill

Thermal transport and thermoelectric effect in composites of alumina and graphene-augmented alumina nanofibers

Saffarshamshirgar, Ali; Belmonte, Manuel; Tewari, Girish C.; **Rojas Hernandez, Rocio Estefania**; Seitsonen, Jani; **Ivanov, Roman**; Karppinen, Maarit; Miranzo, Pilar; **Hussainova, Irina** Materials 2021 / art. 2242 <https://doi.org/10.3390/ma14092242> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Towards blue long-lasting luminescence of Eu/Nd-doped calcium-aluminate nanostructured platelets via the molten salt route

Rojas Hernandez, Rocio Estefania; Rubio-Marcos, Fernando; Serrano, Aida; **Hussainova, Irina** Nanomaterials 2019 / art. 1473, 14 p. : ill <https://doi.org/10.3390/nano9101473> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Up-conversion enhancement in Er³⁺ / Yb³⁺ doped 1-D microcavity based on alternating aluminosilicate glass and titania sol-gel layers

Rojas Hernandez, Rocio Estefania; Santos, Luis F.; Almeida, Rui M. Ceramics international 2020 / p. 26273-26281 <https://doi.org/10.1016/j.ceramint.2019.12.248> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Versatile graphene-alumina nanofibers for microwave absorption and EMI shielding

Saffar Shamshirgar, Ali; Alvarez, Maria Fernandez; Del Campo, Adolfo; Fernandez, Jose Francisco; Rojas Hernandez, Rocio Estefania; Ivanov, Roman; Rosen, Johanna; **Hussainova, Irina** Carbon 2023 / art. 118057 <https://doi.org/10.1016/j.carbon.2023.118057> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)