



UFRJ

UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
Centro de Ciências Matemáticas e da Natureza - CCMN
Instituto de Física - IF
Programa de Pós-Graduação em Física – PPG Física

Publicações de periódicos do PPG Física/UFRJ em 2021

1. MENDONÇA, A.A.; **GHIVELDER, L.**; JURADO, J.F.; **GOMES, A.M.** Magnetocaloric effect in Ni₂(Mn,Cu)Ga_{0.84}Al_{0.16} Heusler alloys. *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS*, v. 531, p. 167965, 2021.
2. HERNÁNDEZ, Alexis; **GOMES, ANGELO**; SINNECKER, Elis; GRANDE, Rafael Del; **CAPAZ, Rodrigo**; **CARDOSO, Simone C.** Experimentos caseiros: Uma adaptação mão-na-massa da disciplina de Física Experimental II da UFRJ para o ensino remoto. *REVISTA BRASILEIRA DE ENSINO DE FÍSICA (ONLINE)*, v. 43, p. 1, 2021.
3. BOLDRIN, David; MENDIVE-TAPIA, Eduardo; ZEMEN, Jan; STAUNTON, Julie B.; **GOMES, Angelo M.**; **GHIVELDER, Luis**; HALPIN, John; GIBBS, Alexandra S.; AZNAR, Araceli; TAMARIT, Josep-Luís; LLOVERAS, Pol; MOYA, Xavier; COHEN, Lesley F.. Barocaloric properties of quaternary Mn₃ (Zn, In) N for room-temperature refrigeration applications. *PHYSICAL REVIEW B*, v. 104, p. 134101, 2021.
4. DE LIMA E SILVA, Luiz Eduardo; CARO PATIÑO, Julieth; **DE SOUZA GOMES, Angelo Marcio**. On the structural and thermo-magnetic study of the magnetocaloric Heusler alloy Ni₂Mn_{1-x}Cu_x Ga_{0.8}Al_{0.2}. *JOURNAL OF PHYSICS-CONDENSED MATTER*, v. 33, p. 235701, 2021.
5. ACIOLY, V; **PAIVA, T**; AZEVEDO, G; ROCHA, T; PICORETI, R; **SANTOS, A. C. F.** *Shedding synchrotron light on teacher training*. *PHYSICS EDUCATION (BRISTOL. PRINT)*, v. 56, p. 035021, 2021.
6. VELLOSO, M.; ARANA, M.; ACIOLY, V; **SANTOS, A. C. F.** *Abordagem da Lei de Ohm para Estudantes com Deficiência Visual no Ensino Superior*. *LATIN - AMERICAN JOURNAL OF PHYSICS EDUCATION*, v. 15, p. 1310-1-1310-4, 2021.
7. MOTTA, L.; **SANTOS, A.C.F.** *Circuitos Resistivos Simétricos: uma Abordagem Experimental*. *REVISTA BRASILEIRA DE ENSINO DE FÍSICA (ONLINE)*, v. 43, p. e20210012, 2021.
8. MORCELLE, V.; MEDINA, A.; RIBEIRO, L. C.; PRAZERES, I.; MARINHO, R. R. T.; ARRUDA, M. S.; MENDES, L. A. V.; SANTOS, M. J.; **SANTOS, A. C. F.** *Double-Valance photoionization of SUVA134a molecule (CFH 2 CF 3)*. *RAPID COMMUNICATIONS IN MASS SPECTROMETRY*, v. 35, p. e9132, 2021.
9. VELLOSO, M; ARANA, M; ACIOLY, V; **SANTOS, A C F** . *Hands-on electricity remote teaching to a blind student during pandemic of 2020*. *PHYSICS EDUCATION (BRISTOL. PRINT)*, v. 56, p. 055027, 2021.

10. MORCELLE, V; et al; **SANTOS, A.C.F.** . Meninas do radium: digital media as an instrument for gender inclusion in physics during the covid-19 pandemic in Brazil. REVISTA DE ENSEÑANZA DE LA FÍSICA (ONLINE), v. 33, p. 379, 2021.
11. COUTINHO, Lúcia H.; DE A. RIBEIRO, Fabio; TENORIO, Bruno N. C.; CORIANI, Sonia; **DOS SANTOS, Antonio C. F.**; NICOLAS, Christophe; MILOSAVLJEVIC, Aleksandar R.; BOZEK, John D.; **WOLFF, Wania**. NEXAFS and MS-AES spectroscopy of the C 1s and Cl 2p excitation and ionization of chlorobenzene: Production of dicationic species. PHYSICAL CHEMISTRY CHEMICAL PHYSICS **JCR**, v. 23, p. 27484-27497, 2021.
12. TERRAZOS, L. A.; MARCELLINA, E.; WANG, ZHANNING; COPPERSMITH, S. N.; FRIESEN, M.; HAMILTON, A. R.; Hu, Xuedong; **KOILLER, Belita**; SARAIVA, A. L.; CULCER, Dimitrie; **CAPAZ, RODRIGO B.**. Theory of hole-spin qubits in strained germanium quantum dots. PHYSICAL REVIEW B, v. 103, p. 125201-1-125201-11, 2021.
13. TJEERTES, D.; VELA, A.; VERSTIJNEN, T. J. F.; BANFI, E. G.; VAN VELDHOVEN, P. J.; **MENEZES, M. G.**; **CAPAZ, R. B.**; **KOILLER, B.**; KOENRAAD, P. M.. Atomic-scale study of Si-doped AlAs by cross-sectional scanning tunneling microscopy and density functional theory. PHYSICAL REVIEW B, v. 104, p. 125433-1-125433-9, 2021.
14. FREITAS CABRAL, A.J.; PEÑA SERNA, J.D.; **SALLES, Benjamin Rache**; AMORIM, H. S.; ROCHA REMÉDIOS, C. M.; NOVAK, MIGUEL A.. Magnetic dynamics of NiMn₂O₄ spinel produced by a simple aqueous sol-gel route. JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, v. 538, p. 168291, 2021.
15. WANG, Yujiang; LEIBERG, Karoline; LUDWIG, Tobias; LITTLE, Bethany; NECUS, Joe H; WINSTON, Gavin; VOS, Sjoerd B; TISI, Jane De; DUNCAN, John S.; TAYLOR, Peter N.; **MOTA, Bruno**. Independent components of human brain morphology. NEUROIMAGE, v. 226, p. 117546, 2021.
16. AAB, A.; ABREU, P.; AGLIETTA, M.; ALBURY, J. M.; ALLEKOTTE, I.; ALMELA, A.; ALVAREZ-MUÑIZ, J.; R. ALVES BATISTA ANASTASI, G.A.; ANCHORDOQUI, L.; ANDRADA, B.; ANDRINGA, S.; ARAMO, C.; ARAÚJO FERREIRA, P.R.; ARTEAGA VELÁZQUEZ, J.C.; ASOREY, H.; ASSIS, P.; AVILA, G.; BADESCU, A.M.; BAKALOVA, A.; BALACEANU, A.; BARBATO, F.; BARREIRA LUZ, R.J.; BECKER, K.H.; BELLIDO, J.A.; **DE MELLO NETO, J. R. T.**; et al. Calibration of the underground muon detector of the Pierre Auger Observatory. Journal of Instrumentation, v. 16, p. P04003, 2021.
17. AAB, A.; ABREU, P.; AGLIETTA, M.; ALBURY, J.M.; ALLEKOTTE, I.; ALMELA, A.; ALVAREZ-MUÑIZ, J. R.; ALVES BATISTA ANASTASI, G.A.; ANCHORDOQUI, L.; ANDRADA, B.; ANDRINGA, S.; ARAMO, C.; FERREIRA, P.R.; ARAÚJO Asorey, H.; ASSIS, P.; AVILA, G.; BADESCU, A.M.; BAKALOVA, A.; BALACEANU, A.; BARBATO, F.; LUZ, R.J.; BARREIRA BECKER, K.H.; BELLIDO, J.A.; BERAT, C.; et al. Design, upgrade and characterization of the silicon photomultiplier front-end for the AMIGA detector at the Pierre Auger Observatory. Journal of Instrumentation, v. 16, p. P01026-P01026, 2021.

18. AAB, A.; ABREU, P.; AGLIETTA, M.; ALBURY, J.'M.; ALLEKOTTE, I.; ALMELA, A.; ALVAREZ-MUÑIZ, J. R.; ALVES BATISTA ANASTASI, G.'A.; ANCHORDOQUI, L.; ANDRADA, B.; ANDRINGA, S.; ARAMO, C.; ARAÚJO FERREIRA, P.'R.; ASOREY, H.; ASSIS, P.; AVILA, G.; BADESCU, A.'M.; BAKALOVA, A.; BALACEANU, A.; BARBATO, F.; BARREIRA LUZ, R.'J.; BECKER, K.'H.; BELLIDO, J.'A.; BERAT, C.; **DE MELLO NETO, J. R. T.**; et al. Measurement of the Fluctuations in the Number of Muons in Extensive Air Showers with the Pierre Auger Observatory. *PHYSICAL REVIEW LETTERS*, v. 126, p. 152002, 2021.
19. AAB, A.; ABREU, P.; AGLIETTA, M.; ALBURY, J.'M.; ALLEKOTTE, I.; ALMELA, A.; ALVAREZ-MUÑIZ, J. R.; ALVES BATISTA ANASTASI, G.'A.; ANCHORDOQUI, L.; ANDRADA, B.; ANDRINGA, S.; ARAMO, C.; ARAÚJO FERREIRA, P.'R.; ASOREY, H.; ASSIS, P.; AVILA, G.; BADESCU, A.'M.; BAKALOVA, A.; BALACEANU, A.; BARBATO, F.; BARREIRA LUZ, R.'J.; BECKER, K.'H.; BELLIDO, J.'A.; BERAT, C.; **DE MELLO NETO, J. R. T.**; et al. The FRAM robotic telescope for atmospheric monitoring at the Pierre Auger Observatory. *Journal of Instrumentation*, v. 16, p. P06027, 2021.
20. AAB, A.; ABREU, P.; AGLIETTA, M.; ALBURY, J.'M.; ALLEKOTTE, I.; ALMELA, A.; ALVAREZ-MUÑIZ, J. R.; ALVES BATISTA ANASTASI, G.'A.; ANCHORDOQUI, L.; ANDRADA, B.; ANDRINGA, S.; ARAMO, C.; ARAÚJO FERREIRA, P.'R.; ASOREY, H.; ASSIS, P.; AVILA, G.; BADESCU, A.'M.; BAKALOVA, A.; BALACEANU, A.; BARBATO, F.; BARREIRA LUZ, R.'J.; BECKER, K.'H.; BELLIDO, J.'A.; BERAT, C.; **DE MELLO NETO, J. R. T.**; et al. Deep-learning based reconstruction of the shower maximum X max using the water-Cherenkov detectors of the Pierre Auger Observatory. *Journal of Instrumentation*, v. 16, p. P07019, 2021.
21. AAB, A.; ABREU, P.; AGLIETTA, M.; ALBURY, J.'M.; ALLEKOTTE, I.; ALMELA, A.; ALVAREZ-MUÑIZ, J. R.; ALVES BATISTA ANASTASI, G.'A.; ANCHORDOQUI, L.; ANDRADA, B.; ANDRINGA, S.; ARAMO, C.; ARAÚJO FERREIRA, P.'R.; ASOREY, H.; ASSIS, P.; AVILA, G.; BADESCU, A.'M.; BAKALOVA, A.; BALACEANU, A.; BARBATO, F.; BARREIRA LUZ, R.'J.; BECKER, K.'H.; BELLIDO, J.'A.; BERAT, C.; **DE MELLO NETO, J. R. T.**; et al. Design and implementation of the AMIGA embedded system for data acquisition. *Journal of Instrumentation*, v. 16, p. T07008, 2021.
22. AAB, A.; ABREU, P.; AGLIETTA, M.; ALBURY, J.'M.; Allekotte, I.; ALMELA, A.; ALVAREZ-MUÑIZ, J. R.; ALVES BATISTA ANASTASI, G.'A.; ANCHORDOQUI, L.; ANDRADA, B.; ANDRINGA, S.; ARAMO, C.; ARAÚJO FERREIRA, P.'R.; ASOREY, H.; ASSIS, P.; AVILA, G.; BADESCU, A.'M.; BAKALOVA, A.; BALACEANU, A.; BARBATO, F.; BARREIRA LUZ, R.'J.; BECKER, K.'H.; BELLIDO, J.'A.; BERAT, C.; **DE MELLO NETO, J. R. T.**; et al. Extraction of the muon signals recorded with the surface detector of the Pierre Auger Observatory using recurrent neural networks. *Journal of Instrumentation*, v. 16, p. P07016, 2021.

23. **BALLON-BAYONA, Alfonso**; MAMANI, LUIS A.'H.; MIRANDA, ALEX S.; ZANCHIN, Vilson T.. Effective holographic models for QCD: Thermodynamics and viscosity coefficients. PHYSICAL REVIEW D, v. 104, p. 046013, 2021.
24. **BALLON-BAYONA, Alfonso**; MAMANI, LUIS A.'H.; RODRIGUES, DIEGO M.. Spontaneous chiral symmetry breaking in holographic soft wall models. Physical Review D, v. 104, p. 126029, 2021.
25. CALDEIRA, N. G.; CAPOSSOLI, E. F.; **ZARRO, C. A. D.**; **BOSCHI-FILHO, H.**. Fluctuation and dissipation within a deformed holographic model with backreaction. PHYSICS LETTERS B, v. 815, p. 136140, 2021.
26. MACHADO, R. R.; TORT, A. C.; **ZARRO, C. A. D.** .O princípio da equivalência: uma introdução à relatividade geral. A Física na Escola (Impresso), v. 2, p. 1-12, 2021.
27. SOARES, M. S.; SVAITER, N. F.; **Zarro, C. A. D.**; **MENEZES, M. G.**. Uniformly accelerated quantum counting detector in Minkowski and Fulling vacuum states. PHYSICAL REVIEW A, v. 103, p. 042225, 2021.
28. PITOMBO, R. S.; VASCONCELLOS, M.; **FARINA, C.**; DE MELO E SOUZA, Reinaldo. Source method for the evaluation of multipole fields. EUROPEAN JOURNAL OF PHYSICS, v. 42, p. 025202, 2021.
29. ABRANTES, P.'P.; PESSANHA, V.; **FARINA, C.**; SOUZA, REINALDO DE MELO E. Comment on -Dispersion Interaction between Two Hydrogen Atoms in a Static Electric Field-. PHYSICAL REVIEW LETTERS, v. 126, p. 109301-109301, 2021
30. Kort-Kamp, W. J. M.; CULCHAC, F. J.; **ROSA, F. S. S.**; **FARINA, C.**; **CAPAZ, Rodrigo B.**; **PINHEIRO, F. A.** Harnessing the photonic local density of states in graphene moiré superlattices. PHYSICAL REVIEW B, v. 103, p. 155423-1-155423-7, 2021.
31. ABRANTES, P. P.; BASTOS, G.; SZILARD, D.; **FARINA, C.**; **ROSA, F. S. S.**. Tuning resonance energy transfer with magneto-optical properties of graphene. PHYSICAL REVIEW B, v. 103, p. 174421-174421-10, 2021.
32. SZILARD, Daniela; ABRANTES, Patrícia P.; **PINHEIRO, Felipe A.**; **ROSA, Felipe S. S.**; **FARINA, Carlos** ; KORT-KAMP, WILTON J. M.. Optical Forces on an Oscillating Dipole Near VO₂ Phase Transition. UNIVERSE, v. 7, p. 159-159-20, 2021.
33. MUNIZ, Y.; **FARINA, C.**; KORT-KAMP, W. J. M.. Casimir forces in the flatland: Interplay between photoinduced phase transitions and quantum Hall physics. Physical Review Research, v. 3, p. 023061-1-023061-9, 2021.
34. ABRANTES, P. P.; CYSNE, TARIK P.; SZILARD, D.; **ROSA, F. S. S.**; **PINHEIRO, F. A.**; **FARINA, C.**. Probing topological phase transitions via quantum reflection in the graphene family materials. PHYSICAL REVIEW B, v. 104, p. 075409/1-075409/11, 2021.

44. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; , et al.. Measurement of CP observables in $B^\pm \rightarrow D^{(*)}K^\pm$ and $B^\pm \rightarrow D^{(*)}\pi^\pm$ decays using two-body D final states. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 81, 2021.
45. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; , et al. Measurement of differential $\frac{d\sigma}{dy}$ and $\frac{d\sigma}{p_T}$ coverline{c} $\frac{d\sigma}{y}$ -dijet cross-sections in the forward region of pp collisions at $\sqrt{s} = 13$ TeV. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 23, 2021.
46. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; , et al.Measurement of the CKM angle γ in $B^\pm \rightarrow DK^\pm$ and $B^\pm \rightarrow D\pi^\pm$ decays with $D \rightarrow K^0 \bar{K}^0$ and $D^+ \bar{D}^-$. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 169, 2021.
47. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; , et al; Measurement of the prompt-production cross-section ratio $\sigma(\chi c 2)/\sigma(\chi c 1)$. PHYSICAL REVIEW C, v. 103, p. 064905, 2021.
48. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; , et al. Observation of a New Excited D s + Meson in $B_0 \rightarrow D$. PHYSICAL REVIEW LETTERS, v. 126, p. 12, 2021.
49. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of Multiplicity Dependent Prompt $\chi c 1$ (3872) <. PHYSICAL REVIEW LETTERS, v. 126, p. 092001, 2021.

50. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of the $b \rightarrow c$. PHYSICS LETTERS B, v. 815, p. 136172, 2021.
51. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; , et al. Search for CP violation in $D_s^+ \rightarrow h^+ \pi^0$ and $D_s^+ \rightarrow h^+ \eta$ decays. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 19, 2021.
52. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Search for long-lived particles decaying to $e^\pm \mu^\mp$ and $\mu^\pm \eta$ decays. EUROPEAN PHYSICAL JOURNAL C, v. 81, p. 261, 2021.
53. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; , et at. Measurement of C P asymmetry in $D^0 \rightarrow K^+$. PHYSICAL REVIEW D, v. 104, p. L031102, 2021.
54. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; at al. Measurement of C P Violation in the Decay $B^+ \rightarrow K^+ \eta$. PHYSICAL REVIEW LETTERS, v. 126, p. 091802, 2021.
55. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Measurement of the branching fraction of the $B^0 \rightarrow D^+ \pi^-$ decay. EUROPEAN PHYSICAL JOURNAL C, v. 81, p. 314, 2021.

56. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.; 'A. AIOLA, S; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO**, S.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Measurement of the CKM angle γ and $\{B\}_s^0 \rightarrow \{\pi^+\} \{\pi^-\}$ mixing frequency with $\{B\}_s^0 \rightarrow \{D\}_s^{\pm} \{h\}^{\mp}$ decays. *JOURNAL OF HIGH ENERGY PHYSICS*, v. 2021, p. 137, 2021.
57. TROJAK, Oliver J.; GORSKY, Sean; MURRAY, Connor; SGRIGNUOLI, Fabrizio; **PINHEIRO, Felipe A.**; DAL NEGRO, Luca; SAPIENZA, Luca. Cavity-enhanced light-matter interaction in Vogel-spiral devices as a platform for quantum photonics. *APPLIED PHYSICS LETTERS*, v. 118, p. 011103, 2021.
58. ALI, Rfaqat; DUTRA, R. S.; **PINHEIRO, F. A.**; **MAIA NETO, P. A.**. Enantioselection and chiral sorting of single microspheres using optical pulling forces. *OPTICS LETTERS*, v. 46, p. 1640, 2021.
59. ALI, Rfaqat; DUTRA, Rafael De Sousa; **PINHEIRO, Felipe Arruda**; **MAIA NETO, Paulo Americo**. Gain-assisted optical tweezing of plasmonic and large refractive index microspheres. *Journal of Optics*, v. 23, p. 115004, 2021.
60. IMPENS, F.; D'ANGELIS, F. M.; **Pinheiro, F. A.**; GUÉRY-ODELIN, D.. Time scaling and quantum speed limit in non-Hermitian Hamiltonians. *PHYSICAL REVIEW A*, v. 104, p. 052620, 2021.
61. PRADO, M.; SGRIGNUOLI, F.; CHEN, Y.; DAL NEGRO, L.; **Pinheiro, F. A.**. Structural entropy and spatial decay of quasimodes in Vogel spirals. *PHYSICAL REVIEW B*, v. 104, p. 184204, 2021.
62. NUNES, Renan O.; SPRENG, Benjamin; DE MELO E SOUZA, Reinaldo; INGOLD, Gert-Ludwig; **MAIA NETO, Paulo A.**; **ROSA, Felipe S. S.**. The Casimir Interaction between Spheres Immersed in Electrolytes. *UNIVERSE*, v. 7, p. 156, 2021.
63. **NICACIO, F.**; Weyl-Wigner representation of canonical equilibrium states. *Journal of Physics A: Mathematical and Theoretical*, v. 54, p. 055004, 2021.
64. **NICACIO, F.**. Williamson theorem in classical, quantum, and statistical physics. *American Journal Of Physics*, v. 89, p. 1139-1151, 2021.
65. MATOS, Guilherme Costa; MELO E SOUZA, Reinaldo de; **MAIA NETO, Paulo A.**; **IMPENS, François**. Quantum vacuum Sagnac effect. *PHYSICAL REVIEW LETTERS*, v. 127, p. 270401, 2021.
66. PIERA, R. S.; WALBORN, S. P.; **AGUILAR, G. H.**. Experimental demonstration of the advantage of using coherent measurements for phase estimation in the presence of depolarizing noise. *PHYSICAL REVIEW A*, v. 103, p. 012602, 2021.

67. TADDEI, M. M.; SILVA, T. L.; NERY, R. V.; **AGUILAR, G. H.**; WALBORN, S. P.; AOLITA, L.. Exposure of subtle multipartite quantum nonlocality. *Npj Quantum Information*, v. 7, p. 69, 2021.
68. LAHIRI, Mayukh; LAPKIEWICZ, Radek; HOCHRINGER, Armin; **BARRETO LEMOS, Gabriela**; ZEILINGER, Anton. Characterizing mixed-state entanglement through single-photon interference. *PHYSICAL REVIEW A*, v. 104, p. 013704, 2021.
69. VISWANATHAN, Balakrishnan; **BARRETO LEMOS, Gabriela**; LAHIRI, Mayukh . Resolution limit in quantum imaging with undetected photons using position correlations. *OPTICS EXPRESS*, v. 29, p. 38185, 2021.
70. VISWANATHAN, Balakrishnan; **BARRETO LEMOS, Gabriela**; LAHIRI, Mayukh. Position correlation enabled quantum imaging with undetected photons. *OPTICS LETTERS*, v. 46, p. 3496, 2021.
71. MANIERO, A. M.; DE CARVALHO, C. R.; PRUDENTE, F. V.; **JALBERT, Ginette**. On the oscillating properties of a two-electron quantum dot in the presence of a magnetic field. *JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS*, v. 54, p. 11LT01, 2021.
72. RODRIGUES, Diego M.; LI, Danning; CAPOSSOLI, Eduardo Folco; **BOSCHI-FILHO, Henrique**. Finite density effects on chiral symmetry breaking in a magnetic field in 2 + 1 dimensions from holography. *PHYSICAL REVIEW D*, v. 103, p. 066022, 2021.
73. SANTOS, Fabiano F.; CAPOSSOLI, Eduardo Folco; **BOSCHI-FILHO, Henrique**. AdS/BCFT correspondence and BTZ black hole thermodynamics within Horndeski gravity. *PHYSICAL REVIEW D*, v. 104, p. 066014-1-066014-15, 2021.
74. MARTÍN CONTRERAS, Miguel Angel; CAPOSSOLI, Eduardo Folco; LI, Danning; VEGA, Alfredo; **BOSCHI-FILHO, Henrique**. Proton and neutron form factors from deformed gravity/gauge duality. *PHYSICS LETTERS B*, v. 822, p. 136638, 2021.
75. MORAIS GRAÇA, João Paulo; CAPOSSOLI, Eduardo Folco; **BOSCHI-FILHO, Henrique**. Joule-Thomson expansion for noncommutative uncharged black holes. *EPL*, v. 135, p. 41002-p1, 2021.
76. ABI, B.; ACCIARRI, R.; ACERO, M. A.; ADAMOV, G.; ADAMS, D.; ADINOLFI, M.; AHMAD, Z.; AHMED, J.; ALION, T.; MONSALVE, S.; ALONSO ALT, C.; ANDERSON, J.; ANDREOPoulos, C.; ANDREWS, M. P.; ANDRIANALA, F.; ANDRINGA, S.; ANKOWSKI, A.; ANTONOVA, M.; ANTUSCH, S.; ARANDA-FERNANDEZ, A.; ARIGA, A.; ARNOLD, L. O.; ARROYAVE, M.; ASAADI, J.; AURISANO, A.; **DE MELLO NETO, J. R. T.**; et al. Prospects for beyond the Standard Model physics searches at the Deep Underground Neutrino Experiment. *EUROPEAN PHYSICAL JOURNAL C*, v. 81, p. 322, 2021.
77. Aaij, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.;

- ALBRETCHE, J.; ALESSIO, F; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZIV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A; et al. Observation of a new - b 0 state. PHYSICAL REVIEW D, v. 103, p. 012004, 2021.
78. **MORICONI, L.**.. Hydrodynamic decay of decorated quantum vortex rings. PHYSICS LETTERS A, v. 404, p. 127409, 2021.
79. **MORICONI, L.** Multifractality Breaking from Bounded Random Measures. Physical Review. E, Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics (Online) (Cessou em 2000. Cont. ISSN 1550-2376 Physical, v. 103, p. 062137, 2021.
80. **MORICONI, L.**.. Minimal surfaces unveiled from the statistics of turbulent circulation fluctuations. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, v. 118, p. e2117968118, 2021. **MORICONI, L.**; PEREIRA, R.M. . A física estatística da turbulência. REVISTA BRASILEIRA DE ENSINO DE FÍSICA (ONLINE), v. 43, p. 1, 2021.
81. HSINI, M.; **GHIVELDER, L.**.. Critical behavior at high magnetic fields in LaPr(Ca,Sr)MnO manganites. PHYSICA B-CONDENSED MATTER, v. 615, p. 413055, 2021.
82. HSINI, M.; **GHIVELDER, L.**; PARISI, F.. Critical behavior investigated through magnetocaloric effect in PrSrMnO and Pr(Sr,Ca)MnO manganites. JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, v. 535, p. 168059, 2021.
83. BOLDRIN, David; MENDIVE-TAPIA, Eduardo; ZEMEN, Jan; STAUNTON, Julie B.; **GOMES, Angelo M.**; **GHIVELDER, Luis**; HALPIN, John; GIBBS, Alexandra S.; AZNAR, Araceli; TAMARIT, Josep-Lluís; LLOVERAS, Pol; MOYA, Xavier; COHEN, Lesley F.. Barocaloric properties of quaternary for room-temperature refrigeration applications. PHYSICAL REVIEW B, v. 104, p. 134101, 2021.
84. GALDINO, C. W.; FREITAS, D. C.; MEDRANO, C. P. C.; SANCHEZ, D. R.; TARTAGLIA, R.; RABELLO, L. P.; MENDONÇA, A. A.; **GHIVELDER, L.**; CONTINENTINO, M. A.; ZAPATA, M. J. M.; **PINHEIRO, C. B.**; AZEVEDO, G. M.; RODRÍGUEZ-VELAMAZÁN, J. A.; GARBARINO, G.; NÚÑEZ-REGUEIRO, M.; GRANADO, E.. Structural and spectroscopic investigation of the charge-ordered, short-range ordered, and disordered phases of the ludwigite. PHYSICAL REVIEW B, v. 104, p. 195151, 2021.
85. ELASCO, V.; **NETO, M. B. SILVA**. Unconventional superconductivity as a quantum Kuramoto synchronization problem in random elasto-nuclear oscillator networks. Journal of Physics Communications, v. 5, p. 015003, 2021.
86. OLIVEIRA, Jaime F.; FONTES, Magda B.; MOUTINHO, Marcus; ROWLEY, Stephen E.; BAGGIO-SAITOVITCH, Elisa; **SILVA NETO, Marcello B.**; ENDERLEIN, Carsten. Pressure-induced Anderson-Mott transition in elemental tellurium. Communications Materials, v. 2, p. 1, 2021.

87. ELMASSALAMI, M.; **NETO, M. B. Silva**. Superconductivity, Fermi-liquid transport, and universal kinematic scaling relation for metallic thin films with stabilized defect complexes. *PHYSICAL REVIEW B*, v. 104, p. 1-12, 2021.
88. TELES, S.; LOPES, A. R.; **RIBEIRO, Marcelo Byrro**. Fractal analysis of the UltraVISTA galaxy survey. *PHYSICS LETTERS B*, v. 813, p. 136034, 2021. SANTOS-PEREIRA, O. L.; ABREU, E. M. C.; **Ribeiro, Marcelo B.**. Fluid dynamics in the warp drive spacetime geometry. *EUROPEAN PHYSICAL JOURNAL C*, v. 81, p. 133, 2021.
89. SANTOS-PEREIRA, O. L.; ABREU, E. M. C.; **RIBEIRO, Marcelo Byrro**. Charged dust solutions for the warp drive spacetime. *General Relativity and Gravitation*, v. 53, p. 23, 2021.
90. SANTOS-PEREIRA, O. L.; ABREU, E. M. C.; **RIBEIRO, Marcelo Byrro**. Perfect Fluid Warp Drive Solutions with the Cosmological Constant. *European Physical Journal Plus*, v. 136, p. 902, 2021.
91. OLIVARES-SALAVERRI, I.; **RIBEIRO, Marcelo B.**. Testing cosmological models with the brightness profile of distant galaxies. *ASTROPHYSICS AND SPACE SCIENCE*, v. 366, p. 109, 2021.
92. **CODEÇO, C.F.S.**; Mello, S.L.A.; MAGNANI, B.F.; SANT'ANNA, M.M.. Ion-beam-induced structure fragmentation and dewetting in Au/Ti films. *Materialia*, v. 20, p. 101214, 2021.
93. SANTOS, TIAGO F. F.; TACCHINO, FRANCESCO; Gerace, D.; CAMPISI, Michele; SANTOS, M. F.. Maximally efficient quantum thermal machines fueled by nonequilibrium steady states. *PHYSICAL REVIEW A*, v. 103, p. 062225, 2021.
94. ULLAH, Saif; DENIS, Pablo A.; **MENEZES, Marcos G.**; SATO, Fernando. Tunable and sizeable band gaps in strained SiC3/hBN vdW heterostructures: A potential replacement for graphene in future nanoelectronics. *COMPUTATIONAL MATERIALS SCIENCE*, v. 188, p. 110233, 2021.
95. ZEB, Johar; ZHAO, Xuan; ULLAH, Saif; **MENEZES, Marcos G.**; ZHANG, Wenkai. Tunable optoelectronic properties in multilayer 1T-TiS2: the effects of strain and an external electric field. *JOURNAL OF MATERIALS SCIENCE*, v. 56, p. 6891-6902, 2021.
96. PAZ, WENDEL S.; **MENEZES, Marcos G.**; BATISTA, Nathanael N.; SANCHEZ-SANTOLINO, Gabriel; VELICKÝ, Matě; VARELA, María; **CAPAZ, Rodrigo B.**; PALACIOS, Juan José. Franckite as an Exfoliable Naturally Occurring Topological Insulator. *NANO LETTERS*, v. 21, p. 7781-7788, 2021.
97. **MENEZES, Marcos G.**; ULLAH, Saif. Unveiling the multilevel structure of midgap states in Sb-doped monolayers. *PHYSICAL REVIEW B*, v. 104, p. 125438, 2021.
98. TADDEI, Márcio M.; CARIÑE, Jaime; MARTÍNEZ, Daniel; GARCÍA, Tania; GUERRERO, Nayda; ABBOTT, Alastair A.; ARAÚJO, Mateus; BRANCIARD,

- Cyril; GÓMEZ, Esteban S.; WALBORN, Stephen P.; AOLITA, LEANDRO; LIMA, GUSTAVO. Computational Advantage from the Quantum Superposition of Multiple Temporal Orders of Photonic Gates. *PRX Quantum*, v. 2, p. 010320, 2021.
99. COLLAZOSPAZ, Lida Janeth; HUWAYZ, Maryam; JAKOMIN, Roberto; MICHA, Daniel; DORNELAS PINTO, Luciana; M. S. KAWABATA, Rudy; **PIRES, MAURICIO P.**; HENINI, Mohamed; L SOUZA, Patricia. The Role of Defects on the Performance of Quantum Dot Intermediate Band Solar Cells. *IEEE Journal of Photovoltaics*, v. 1, p. 1-10, 2021.
100. SZWARMAN, Daniela; PENELLO, Germano M.; KAWABATA, Rudy M.S.; **PIRES, MAURÍCIO P.**; SOUZA, PATRÍCIA L.. Quantifying milk proteins using infrared photodetection for portable equipment. *JOURNAL OF FOOD ENGINEERING*, v. 308, p. 110676, 2021.
101. FONSECA FILHO, Henrique Duarte; **PIRES, Mauricio Pamplona**; SOUZA, Patrícia Lustosa; MATOS, Robert Saraiva; PRIOLI, Rodrigo. Investigation of the morphological and fractal behavior at nanoscale of patterning lines by scratching in an atomic force microscope. *MICROSCOPY RESEARCH AND TECHNIQUE*, v. 1, p. 1, 2021.
102. LIU, Liying; XING, Yutao; MERINO, I.L.C.; HENRIQUES, M.D.R.; **DÓRIA, Mauro**; SOLÓRZANO, I.G.; BAGGIO-SAITOVITCH, E.. Spontaneous morphology and phase modification driven by sequence of deposition in superconducting Ni-Bi bilayers. *MATERIALS CHEMISTRY AND PHYSICS*, v. 260, p. 124112, 2021.
103. CADORIM, Leonardo R.; ROMAGUERA, Antonio R. de C.; DE OLIVEIRA, Isaías G.; GOMES, RODOLPHO R.; **DORIA, Mauro M.**; SARDELLA, EDSON. Intermediate type-I superconductors in the mesoscopic scale. *PHYSICAL REVIEW B*, v. 103, p. 014504-1-014504-6, 2021.
104. DE OLIVEIRA, Isaias G.; CADORIM, LEONARDO R.; de C. Romaguera, Antonio R.; SARDELLA, Edson; GOMES, Rodolpho R.; **DORIA, Mauro M.**. The spike state in type-I mesoscopic superconductor. *PHYSICS LETTERS A*, v. 406, p. 127457, 2021.
105. **DORIA, Mauro Melchiades**; LIU, Liying; XING, Yutao; MERINO, Isabel L.C.; LITTERST, Jochen; BAGGIO-SAITOVITCH, Elisa. Shape Resonances and the Tc dependence on film thickness of Ni/Bi systems. *SUPERCONDUCTOR SCIENCE & TECHNOLOGY*, v. 00, p. 014504-1, 2021.
106. AMENDOLA, Luca; **QUARTIN, Miguel**. Measuring the Hubble function with standard candle clustering. *ROYAL ASTRONOMICAL SOCIETY. MONTHLY NOTICES*, v. 504, p. 1, 2021.
107. FERREIRA, Pedro Da Silveira; **QUARTIN, Miguel**. First Constraints on the Intrinsic CMB Dipole and Our Velocity with Doppler and Aberration. *PHYSICAL REVIEW LETTERS*, v. 127, p. 101301, 2021.

108. FERREIRA, Pedro Da Silveira; **QUARTIN, Miguel**. Disentangling Doppler modulation, aberration and the temperature dipole in the CMB. PHYSICAL REVIEW D, v. 104, p. 063503, 2021.
109. MARRA, Valerio; **QUARTIN, Miguel**. A Bayesian estimate of the early COVID-19 infection fatality ratio in Brazil based on a random seroprevalence survey. INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES, v. 111, p. 190-195, 2021.
110. BONOLI, S.; MARÍN-FRANCH, A.; VARELA, J.; VÁZQUEZ RAMIÓ, H.; ABRAMO, L. R.; CENARRO, A. J.; DUPKE, R. A.; VÍLCHEZ, J. M.; CRISTÓBAL-HORNILLOS, D.; GONZÁLEZ DELGADO, R. M.; HERNÁNDEZ-MONTEAGUDO, C.; LÓPEZ-SANJUAN, C.; MUNIESA, D. J.; CIVERA, T.; EDEROCLITE, A.; HERNÁN-CABALLERO, A.; MARRA, V.; BAQUI, P. O.; CORTESI, A.; CYPRIANO, E. S.; DAFLON, S.; DE AMORIM, A. L.; DÍAZ-GARCÍA, L. A.; DIEGO, J. M.; MARTÍNEZ-SOLAECHE, G.; et al. The miniJPAS survey: A preview of the Universe in 56 colors. ASTRONOMY & ASTROPHYSICS, v. 653, p. A31, 2021.
111. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of the decay $\Lambda_b^0 \rightarrow \chi c1\pi^-$. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 135, 2021.
112. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Search for the doubly heavy baryons and decaying to and $\Lambda_c^0 \rightarrow \Lambda_b^0 \pi^+$. Chinese Physics C, v. 45, p. 093002, 2021.
113. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of CP violation in two-body $B_s \rightarrow \Lambda_b^0 \pi^+$ -meson decays to charged pions and kaons. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 075, 2021.
114. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.;

- ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of new excited Λ_c^0 states. *EUROPEAN PHYSICAL JOURNAL C*, v. 81, p. 601, 2021.
115. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of the $\Lambda_c^0 \rightarrow D^* \pm D^-$ decay. *JOURNAL OF HIGH ENERGY PHYSICS*, v. 2021, p. 099, 2021.
116. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of the Mass Difference between Neutral Charm-Meson Eigenstates. *PHYSICAL REVIEW LETTERS*, v. 127, p. 111801, 2021.
117. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Precise measurement of the f_s/f_d ratio of fragmentation fractions and of $B_s^- \rightarrow f_s^- f_d^-$. *PHYSICAL REVIEW D*, v. 104, p. 032005, 2021.
118. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Search for heavy neutral leptons in $W^\pm \rightarrow \mu^\pm \nu_\mu$ decays. *EUROPEAN PHYSICAL JOURNAL C*, v. 81, p. 248, 2021.
119. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Search for C P violation in $b \rightarrow p$. *PHYSICAL REVIEW D*, v. 104, p. 052010, 2021.
120. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.;

- ARCHILLI, F.; ARTAMONOV, A.; et al. Search for the doubly charmed baryon Ω^{*+} . *Science China-Physics Mechanics & Astronomy*, v. 64, p. 101062, 2021.
121. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Search for the rare decay $B^0 \rightarrow J/\psi \pi^+$. *Chinese Physics C*, v. 45, p. 043001, 2021.
122. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; Amhis, Y.; An, L.; Anderlini, L.; Andreianov, A.; Andreotti, M.; Archilli, F.; Artamonov, A.; et al. Searches for 25 rare and forbidden decays of D^+ and \bar{D}^0 mesons. *JOURNAL OF HIGH ENERGY PHYSICS*, v. 2021, p. 44, 2021.
123. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLF, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Study of $B^0 \rightarrow \pi^+ \pi^-$ decays. *JOURNAL OF HIGH ENERGY PHYSICS*, v. 2021, p. 24, 2021.
124. DE CASTRO, Pedro Baptista; TERASHIMA, Kensei; YAMAMOTO, TAKAFUMI D; IWASAKI, Suguru; SAITO, Akiko T.; MATSUMOTO, Ryo; ADACHI, Shintaro; SAITO, Yoshito; **ELMASSALAMI, Mohammed**; TAKEYA, Hiroyuki; TAKANO, Yoshihiko. Enhancement of giant refrigerant capacity in Ho_{1-x}Gd_xB₂ alloys ($0.1 \leq x \leq 0.4$). *JOURNAL OF ALLOYS AND COMPOUNDS*, v. 865, p. 158881, 2021.
125. STRIKOS, S; JOSEPH, B.; ALABARSE, F. G.; VALADARES, G.; COSTA, D G; **CAPAZ, RODRIGO B.**; **ELMASSALAMI, M.** Structural Metastability and Fermi Surface Topology of SrAl₂Si₂. *INORGANIC CHEMISTRY*, v. 60, p. 18652-18661, 2021.
126. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A. et al. Observation of a new state. *PHYSICAL REVIEW D*, v. 103, p. 012004, 2021.

127. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A. et al. Precise measurement of the ratio of fragmentation fractions and of decay branching fractions. PHYSICAL REVIEW D, v. 104, p. 032005, 2021.
128. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A. et al. Search for violation in decays. PHYSICAL REVIEW D, v. 104, p. 052010, 2021.
129. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A. et al. Measurement of asymmetry in decays. PHYSICAL REVIEW D, v. 104, p. L031102, 2021.
130. ABAZOV, V.'M; ABBOTT, B.; ACHARYA, B.'S.; ADAMS, M.; ADAMS, T.; AGNEW, J.'P. ;ALEXEEV, G.'D.; ALKHAZOV, G.; ALTON, A.; ALVES, G.'A.; ANTACHEV, G.; ASKEW, A.; ASPELL, P.; ASSIS JESUS, A.'C.'S.; ATANASSOV, I.; ATKINS, S.; AUGSTEN, K.; AUSHEV, V.; AUSHEV, Y.; AVATI, V.; AVILA, C.; BADAUD, F.; BAECHLER, J.; BAGBY, L.; BALDENEGRO BARRERA, C.; et al. Odderon Exchange from Elastic Scattering Differences between $p\bar{p}$ and $p\bar{p}$ - Data at 1.96 TeV and from. PHYSICAL REVIEW LETTERS, v. 127, p. 062003, 2021.
131. Aaij, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; Adinolfi, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; Albrecht, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of New Resonances Decaying to and. PHYSICAL REVIEW LETTERS, v. 127, p. 082001, 2021.
132. GONÇALVES, V. P.; MARTINS, D. E.; **RANGEL, M. S.**. Searching for axionlike particles with low masses in $p\bar{p}$ and $p\bar{p}$ collisions. EUROPEAN PHYSICAL JOURNAL C, v. 81, p. 522, 2021.
133. GONCALVES, V. P.; MARTINS, D. E.; **RANGEL, M. S.**. Exclusive dilepton production at forward rapidities in $p\bar{p}$ collisions. EUROPEAN PHYSICAL JOURNAL C, v. 81, p. 220, 2021.

134. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Study of $\psi\pi^+\pi^-$ decays. *JOURNAL OF HIGH ENERGY PHYSICS*, v. 2021, p. 024, 2021.
135. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Search for time-dependent C P violation in $D^0 \rightarrow K^+ \bar{K}^-$. *PHYSICAL REVIEW D*, v. 104, p. 072010, 2021.
136. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Branching Fraction Measurements of the Rare $B_s^0 \rightarrow -\mu^+ \mu^-$. *PHYSICAL REVIEW LETTERS*, v. 127, p. 151801, 2021.
137. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. First measurement of the C_P -violating phase in $\psi\pi^+\pi^-$ decays. *EUROPEAN PHYSICAL JOURNAL C*, v. 81, p. 1026, 2021.
138. AAIJ, R.; ABDELMOTTELEB, A. S. W.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMEY, J. L.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; et al. Observation of a $\bar{\Lambda}_b^0 \rightarrow \psi\pi^+\pi^-$ production asymmetry in proton-proton collisions at $\sqrt{s} = 7$ and 8 TeV. *JOURNAL OF HIGH ENERGY PHYSICS*, v. 2021, p. 60, 2021.
139. AAIJ, R.; ABDELMOTTELEB, A. S. W.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMEY, J. L.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; et al. Angular analysis of

the rare decay $\Lambda_c^0 \rightarrow -\mu^+\mu^-$. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 43, 2021.

140. AAIJ, R.; ABDELMOTTELEB, A.'S.'W.; ABELLÁN BETETA, C.; ABUDINEN GALLEGOS, F.J.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AGAPOPOULOU, C.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMEY, J.'L.; AMHIS, Y.; AN, L.; ANDERLINI, L.; et al. Observation of the suppressed $b \bar{b} \rightarrow D \bar{p} K^-$. PHYSICAL REVIEW D, v. 104, p. 2008, 2021.
141. AAIJ, R.; ABDELMOTTELEB, A. S. W.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AGAPOPOULOU, C.; AIDALA, C. A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; Alkhazov, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMEY, J. L.; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; et al. Search for the doubly charmed baryon $\Lambda_c^0 \rightarrow cc\pi^+\pi^-$ in the $\Lambda_c^0 \rightarrow cc\pi^+\pi^-\pi^+$ final state. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 107, 2021.
142. AAIJ, R.; ABDELMOTTELEB, A. S. W.; ABELLÁN BETETA, C.; ABUDINÉN, F.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AGAPOPOULOU, C.; AIDALA, C.; A. AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMEY, J. L.; AMHIS, Y.; AN, L.; ANDERLINI, L.; et al. Simultaneous determination of CKM angle γ and charm mixing parameters. JOURNAL OF HIGH ENERGY PHYSICS, v. 2021, p. 141, 2021.
143. AAIJ, R.; ABELLÁN BETETA, C.; ACKERNLEY, T.; ADEVA, B.; ADINOLFI, M.; AFSHARNIA, H.; AIDALA, C.'A.; AIOLA, S.; AJALTOUNI, Z.; AKAR, S.; ALBRECHT, J.; ALESSIO, F.; ALEXANDER, M.; ALFONSO ALBERO, A.; ALIOUCHE, Z.; ALKHAZOV, G.; ALVAREZ CARTELLE, P.; **AMATO, S.**; AMHIS, Y.; AN, L.; ANDERLINI, L.; ANDREIANOV, A.; ANDREOTTI, M.; ARCHILLI, F.; ARTAMONOV, A.; et al. Observation of excited baryons in decays. Physical Review D, v. 104, p. L091102, 2021.
144. XIAO, B.; **COSTA, Natanael C.**; KHATAMI, E.; BATROUNI, G.; SCALETTAR, R. T.; Charge density wave and superconductivity in the disordered Holstein model. PHYSICAL REVIEW B, v. 103, p. L060501, 2021.
145. **COSTA, Natanael C.**; SEKI, KAZUHIRO ; SORELLA, SANDRO. Magnetism and Charge Order in the Honeycomb Lattice. PHYSICAL REVIEW LETTERS, v. 126, p. 107205, 2021.
146. TIRELLI, ANDREA; **COSTA, Natanael C.**. Learning quantum phase transitions through topological data analysis. PHYSICAL REVIEW B, v. 104, p. 235146, 2021.

147. OLIVEIRA, W. S.; DE LIMA, J. PIMENTEL; COSTA, N. C.; DOS SANTOS, R. R. Percolation on Lieb lattices. PHYSICAL REVIEW E, v. 104, p. 064122, 2021.
148. POMPEU, Pedro; LOURENÇO, Pedro S.; ETHER, Diney S.; SOARES, Juliana; FARIAS, Jefte; MACIEL, Gabriela; VIANA, Nathan B.; NUSSENZVEIG, H. MOYSÉS; Pontes, Bruno. Protocol to measure the membrane tension and bending modulus of cells using optical tweezers and scanning electron microscopy. STAR Protocols, v. 2, p. 100283, 2021.
149. GÓMEZ, F.; DUTRA, R.S.; PIRES, L.B.; ARAÚJO, GLAUBER R. DE S.; PONTES, B.; NETO, P.A. MAIA; NUSSENZVEIG, H.M.; VIANA, N. B.. Nonparaxial Mie Theory of Image Formation in Optical Microscopes and Characterization of Colloidal Particles. Physical Review Applied, v. 15, p. 064012, 2021.
150. PIRES, L. B.; ETHER, D. S.; SPRENG, B.; ARAÚJO, G. R. S.; DECCA, R. S.; Dutra, R. S.; BORGES, M.; ROSA, F. S. S.; INGOLD, G.-L.; MOURA, M. J. B.; FRASES, S.; PONTES, B.; Nussenzveig, H. M.; REYNAUD, S.; VIANA, N. B.; MAIA NETO, P. A.. Probing the screening of the Casimir interaction with optical tweezers. Physical Review Research, v. 3, p. 033037, 2021.
151. BRAGA, Nelson R.F.; JUNQUEIRA, O.C.. Configuration entropy and confinement/deconfinement transiton in holographic QCD. PHYSICS LETTERS B, v. 814, p. 136082, 2021.
152. BRAGA, Nelson R.F.; JUNQUEIRA, Octavio C.. Configuration entropy in the soft wall AdS/QCD model and the Wien law. PHYSICS LETTERS B, v. 820, p. 136485, 2021.
153. BIMONTE, Giuseppe; SPRENG, Benjamin; NETO, PAULO A. MAIA; INGOLD, Gert-Ludwig; KLIMCHITSKAYA, Galina L.; MOSTEPANENKO, Vladimir M.; DECCA, Ricardo S.. Measurement of the Casimir Force between 0.2 and 8 μ m: Experimental Procedures and Comparison with Theory. UNIVERSE, v. 7, p. 93, 2021.
154. HENNING, Vinicius; SPRENG, Benjamin; MAIA NETO, Paulo A.; INGOLD, Gert-Ludwig. Casimir Interaction between a Plane and a Sphere: Correction to the Proximity-Force Approximation at Intermediate Temperatures. UNIVERSE, v. 7, p. 129, 2021.
155. GÓMEZ, F.; DUTRA, R.S.; PIRES, L.B.; ARAÚJO, GLAUBER R. DE S.; PONTES, B.; NETO, P.A. MAIA; NUSSENZVEIG, H.M.; VIANA, N.B.. Nonparaxial Mie Theory of Image Formation in Optical Microscopes and Characterization of Colloidal Particles. Physical Review Applied, v. 15, p. 064012, 2021.
156. PIRES, L. B.; ETHER, D. S.; SPRENG, B.; ARAÚJO, G. R. S.; DECCA, R. S.; DUTRA, R. S.; BORGES, M.; ROSA, F. S. S.; INGOLD, G.-L.; MOURA, M. J. B.; FRASES, S.; PONTES, B.; NUSSENZVEIG, H. M.; REYNAUD, S.; VIANA,

- N. B.; Maia Neto, P. A.**. Probing the screening of the Casimir interaction with optical tweezers. *Physical Review Research*, v. 3, p. 033037, 2021.
157. OLIVEIRA, W. S.; PIMENTEL DE LIMA, José; **COSTA, N. C.; DOS SANTOS, R.R.**. Percolation on Lieb lattices. *Physical Review E*, v. 104, p. 064122, 2021.
158. PRETEL, J. M. Z.; **JORÁS, Sergio E.; REIS, Ribamar R. R.**; ARBANIL, J. D. V.. Radial oscillations and stability of compact stars in $f(R, T) = R + 2\beta T$ gravity. *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*, v. 2021, p. 064, 2021.
159. LOBATO, J. C.; MATOS, I. S.; SANTANA, L. T.; **REIS, Ribamar R. R.; CALVÃO, Maurício Ortiz**. Influence of gravitational waves upon light in the Minkowski background: From null geodesics to interferometry. *PHYSICAL REVIEW D*, v. 104, p. 024024, 2021.
160. PRETEL, Juan M.Z.; **JORÁS, Sergio E.; REIS, RIBAMAR R.R.; ARBAÑIL, JOSÉ D.V.**. Neutron stars in $f(R,T)$ gravity with conserved energy-momentum tensor: Hydrostatic equilibrium and asteroseismology. *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*, v. 2021, p. 055, 2021.
161. SILVA, F. W. N.; BARROS, E. B.; **CAPAZ, Rodrigo B.**. Oxygen effects on the electronic transport in stanene. *NANOTECHNOLOGY*, v. 32, p. 395201, 2021.
162. MERCES, Leandro; CANDIOTTO, Graziâni; FERRO, Letícia Mariê Minatogau; BARROS, Anerise; BATISTA, Carlos Vinícius Santos; NAWAZ, Ali; RIUL, Antonio; **CAPAZ, Rodrigo B.; BUFON, Carlos César Bof.** Reorganization Energy upon Controlled Intermolecular Charge-Transfer Reactions in Monolithically Integrated Nanodevices. *Small*, v. 17, p. 2103897, 2021.
163. STRIKOS, Stamatios; JOSEPH, Boby; ALABARSE, Frederico G.; VALADARES, George; COSTA, Deyse G.; **CAPAZ, Rodrigo B.; ELMASSALAMI, Mohammed**. Structural Metastability and Fermi Surface Topology of SrAl₂Si₂. *INORGANIC CHEMISTRY*, v. 60, p. 18652-18661, 2021.
164. LLOVO, I. F.; CARBALLEIRA, C.; SÓÑORA, D.; PEREIRO, A.; PONTE, J. J.; Salem-Sugui, S.; SEFAT, A. S.; Mosqueira, J.. Multiband effects on the upper critical field angular dependence of 122-family iron pnictide superconductors. *Scientific Reports*, v. 11, p. 11526, 2021.
165. IAGO, Fernandez Llovo; SÓÑORA, Daniel; MOSQUEIRA, Jesús; SALEM Sugul JR, SAID; SUNDAR, Shyam; ALVARENGA, Ana; XIE, Tao; LIU, Chang; LI, Shiliang; LUO, Huiqian. Vortex dynamics and second magnetization peak in the iron-pnictide superconductor Ca_{0.82}La_{0.18}Fe_{0.96}Ni_{0.04}As₂. *SUPERCONDUCTOR SCIENCE & TECHNOLOGY*, v. 34, p. 115010, 2021.
166. BOISET, G. R.; BAPTISTA, D.; **CARDOSO, S.C.**. Clinical verification of treatment planning dose calculation in lung SBRT with GATE Monte Carlo

- simulation code. *Physica Medica-European Journal of Medical Physics*, v. 87, p. 1-10, 2021.
167. PEREIRA, Dirceu Dias; **CARDOSO, Simone Coutinho**; DA ROSA, Luiz A.R.; DE SOUZA, Felipe M.L.; DE SOUSA, Juan V.M.; BATISTA, Delano V.S.; BOISET, Gisell Ruiz; WOLFF, Wania; GONÇALVES, Odair Dias. Validation of polylactic acid polymer as soft tissue substitutive in radiotherapy. *RADIATION PHYSICS AND CHEMISTRY*, v. x, p. 109726-x, 2021.
168. STELLING, Mariana Paranhos; SOARES, Mariana Alves; **CARDOSO, Simone Coutinho**; MOTTA, Juliana Maria; DE ABREU, Joice Côrtes; ANTUNES, Maria Júlia Mansur; DE FREITAS, Vitória Gonçalves; MORAES, João Alfredo; CASTELO-BRANCO, Morgana Teixeira Lima; PÉREZ, Carlos Alberto; PAVÃO, Mauro Sérgio Gonçalves. Manganese systemic distribution is modulated in vivo during tumor progression and affects tumor cell migration and invasion in vitro. *Scientific Reports*, v. 11, p. 15833, 2021.
169. CARDOSO, M. A.; ALVES, V. G. L.; **CARDOSO, S.C.**. Dose distribution in a radiosurgery treatment for an acoustic neuroma. *BRAZILIAN JOURNAL OF RADIATION SCIENCES*, v. 9, p. 1, 2021.
170. RUBIANO DA SILVA, N.; DE OLIVEIRA, A.G.; ARRUDA, M.F.Z.; MEDEIROS DE ARAÚJO, R.; SOARES, W.C.; Walborn, S.P.; GOMES, R.M.; Souto Ribeiro, P.H.. Stimulated Parametric Down-Conversion with Vector Vortex Beams. *Physical Review Applied*, v. 15, p. 024039, 2021.
171. GÓMEZ, E.S.; GÓMEZ, S.; MACHUCA, I.; CABELLO, A.; PÁDUA, S.; WALBORN, S.P.; LIMA, G. .Multidimensional Entanglement Generation with Multicore Optical Fibers. *Physical Review Applied*, v. 15, p. 034024, 2021.
172. CYSNE, TARIK P.; COSTA, MARCIO; CANONICO, LUIS M.; NARDELLI, M. BUONGIORNO; MUNIZ, R.'B.; Rappoport, Tatiana G.. Disentangling Orbital and Valley Hall Effects in Bilayers of Transition Metal Dichalcogenides. *PHYSICAL REVIEW LETTERS*, v. 126, p. 056601, 2021.
173. **RAPPOPORT, Tatiana G.**; BLUDOV, Yuliy V.; KOPPENS, Frank H. L.; PERES, Nuno M. R.. Topological Graphene Plasmons in a Plasmonic Realization of the Su-Schrieffer-Heeger Model. *ACS Photonics*, v. 8, p. 1817-1823, 2021.
174. CYSNE, Tarik P.; GUIMARÃES, Filipe S. M.; CANONICO, Luis M.; **RAPPOPORT, Tatiana G.**; MUNIZ, R. B.. Orbital magnetoelectric effect in zigzag nanoribbons of p -band systems. *PHYSICAL REVIEW B*, v. 104, p. 16540, 2021.
175. DUARTE, F. R.; MUKIM, S ; MOLINA-SÁNCHEZ, A.; **RAPPOPORT, TATIANA G.** ; FERREIRA, M. S. Decoding the DC and optical conductivities of disordered MoS films: an inverse problem. *NEW JOURNAL OF PHYSICS*, v. 23, p. 073035, 2021.

176. PAULA, Bruno Souza De; **CODEÇO, Camilla**; HOR-MEYLL, Malena; **PAIVA, Thereza**. Elaboração e avaliação da disciplina remota de Física 1 na UFRJ durante a pandemia de Covid-19 em 2020. REVISTA BRASILEIRA DE ENSINO DE FÍSICA (ONLINE), v. 43, p. e2020518, 2021.
177. **KOIDE, T.**.. Poisson bracket operator. PHYSICAL REVIEW A, v. 104, p. 042213, 2021.
178. MÉRY, A.; KUMAR, V.; FLÉCHARD, X.; GERVAIS, B.; GUILLOUS, S.; LALANDE, M.; RANGAMA, J.; **WOLFF, W.**; CASSIMI, A.. Coulomb-explosion imaging of carbon monoxide dimers. PHYSICAL REVIEW A, v. 103, p. 042813, 2021.
179. TOSI, Amanda A.; ZUCOLOTTO, Maria Elizabeth; **WOLFF, Wania**; MENDES, Julio C.; SUÁREZ, Sergio; PÉREZ, Pablo Daniel; ANDRADE, Diana P.P.. The Classification of Parauapebas Meteorite: Petrological, Mineralogical and Elemental Compositions and Physical Properties. PLANETARY AND SPACE SCIENCE, v. 1, p. 105250-1, 2021.