VU FF Teorinės fizikos ir astronomijos instituto 2021 m. publikacijų

SĄRAŠAS

Turinys

Knygos, knygų dalys ir kiti leidiniai

Lietuvos dangus 2022 (ats. red. G. Tautvaišienė) 154 psl., ISSN 1392-0987.

Jelena Tamulienė; Liudmila Romanova; Vukstich Vasyl; Alexander Snegursky, High-energy electron impact influence on the amino acid fragmentation, Horizons in world physics. Vol. 305 / Albert Reimer (Editor), 2021 (knygos dalis).

Astrofotometrijos grupė

Straipsniai WoS žurnaluose:

1. Straižys, V., Kazlauskas, A., Boyle, R.P., Janusz, R., Zdanavičius, J., Raudeliūnas, S., Černis, K., Maskoliūnas, M., Macijauskas, M., Čepas, V., Semionov, D. Interstellar extinction in the direction of the Open Cluster King 7 and new parameters of the cluster. AJ., 162, 244 (2021).

2. Soam, Archana, Andersson, B. -G., Straižys, Caputo Miranda, V., Kazlauskas, A., Boyle, R.P., Janusz, R., Zdanavičius, J., Acosta-Pulido, J. A. Interstellar Extinction, Polarization, and Grain Alignment in the Sh 2-185 (IC 59 and IC 63) Region. AJ., 161, 149 (2021).

Kiti straipsniai LMT patvirtintose duomenų bazėse:

1. I. Eglitis, K. Černis. Astrometric observations of comet C/2019 Y4 (6 positions) in Baldone Astrophysical Observatory (Code 069). M.P.E.C. 2021-A190 (Jan. 15).

2. K. Černis, J. Zdanavičius, H. Selevičius. Astrometric observations of comet C/2019 Y4 (9 positions) in Moletai Observatory Observatory (Code 152). M.P.E.C. 2021-B143 (Jan. 31).

3., I. Eglitis, K. Černis. Astrometric observations of 2 comets (15 positions) in Baldone Astrophysical Observatory (Code 069). M.P.C. 127301 (2021 Jan. 27).

4. K. Černis, J. Zdanavičius, H. Selevičius. Astrometric observations of 2 comets (19 positions) in Moletai Astronomical Observatory (Code 152). M.P.C. 127301 (2021 Jan. 27).

5. K. Černis, I. Eglitis. Astrometric observations of 115 asteroids (322 positions) and discovery of one new asteroid in Baldone Astrophysical Observatory (Code 069). M.P.C. 127456 (2021 Jan. 27).

6. K. Černis, J. Zdanavičius. Astrometric observations of 33 asteroids (183 positions) in Moletai Astronomical Observatory (Code 152). M.P.C. 127457 (2021 Jan. 27).

7. K. Černis, R. Boyle, V. Laugalys, J. Stott. Astrometric observations of 47 asteroids (291 positions) and discovery of 7 new asteroids in Mt. Graham Observatory (Code 290). M.P.C. 127460 (2021 Jan. 27).

8.. K. Černis, I. Eglitis. Astrometric observations of 79 asteroids (230 positions) and discovery of three new asteroids in Baldone Astrophysical Observatory (Code 069). M.P.C. 129111 (2021 Mar. 25).

9. K. Černis, J. Zdanavičius, E. Pakštiene. Astrometric observations of 43 asteroids (249 positions) in Moletai Astronomical Observatory (Code 152). M.P.C. 129112 (2021 Mar. 25).

10. K. Černis, R. Boyle, V. Laugalys. Astrometric observations of 48 asteroids (525 positions) and discovery of seven new asteroids in Mt. Graham Observatory (Code 290). M.P.C. 129115 (2021 Mar. 25).

11. K. Černis, I. Eglitis,. Astrometric observations of 176 asteroids (618 positions) in Baldone Astrophysical Observatory (Code 069). M.P.C. 130731 (2021 Jun. 1).

12. K. Černis, H. Selevičius, J. Zdanavičius. Astrometric observations of 123 asteroids (290 positions) in Moletai Astronomical Observatory (Code 152). M.P.C. 130732-130733 (2021 Jun. 1).

13. R. Boyle, V. Laugalys, K. Černis. Astrometric observations of 19 asteroids (131 positions) in Mt. Graham Observatory (Code 290). M.P.C. 130735 (2021 Jun. 1).

14. I. Eglitis, K. Černis. Astrometric observations of 57 asteroids (870 positions) in Baldone Astrophysical Observatory (Code 069). M.P.C. 132404 (2021 Aug. 10).

15. K. Černis, J. Zdanavičius, H. Selevičius. Astrometric observations of 43 asteroids (184 positions) in Moletai Astronomical Observatory (Code 152). M.P.C. 132405 (2021 Aug. 10).

16. K. Černis, R. Boyle, V. Laugalys. Astrometric observations of 26 asteroids (158 positions) and discovery of two new asteroids in Mt. Graham Observatory (Code 290). M.P.C. 132406 (2021 Aug. 10).

17. K. Černis, I. Eglitis. Astrometric observations of 170 asteroids (565 positions) and discovery of three new asteroids in Baldone Astrophysical Observatory (Code 069). M.P.C. 134098 (2021 Sep. 20).

18. K. Černis, J. Zdanavičius. Astrometric observations of 48 asteroids (138 positions) in Moletai Astronomical Observatory (Code 152). M.P.C. 134099 (2021 Sep. 20).

19. R. Boyle, V. Laugalys, J. Stott, K.Černis. Astrometric observations of 11 asteroids (68 positions) and discovery of two new asteroids in Mt. Graham Observatory (Code 290). M.P.C. 134101 (2021 Sep. 20).

20. I. Eglitis, K. Černis,. Astrometric observations of 282 asteroids (1144 positions) and discovery of one new asteroids in Baldone Astrophysical Observatory (Code 069). M.P.C. 135342 (2021 Oct. 27).

21. K. Černis, J. Zdanavičius. Astrometric observations of 63 asteroids (193 positions) in Moletai Astronomical Observatory (Code 152). M.P.C. 135343 (2021 Oct. 27).

22. R. Boyle, V. Laugalys, J. Stott, K. Černis. Astrometric observations of 15 asteroids (80 positions) and discovery of one new asteroids in Mt. Graham Observatory (Code 290). M.P.C. 135344 (2021 Oct. 27).

23. K. Černis, I. Eglitis. Astrometric observations of comet C/2021 U1 in Baldone Astrophysical Observatory (Code 069). M.P.E.C. 2021-W31 (Nov. 21).

24. Zelinski, P., Gezer, I., Gromadzki, M., Wyrzykowski, L., Lam, M. C., Ihanec, N., Kruszynska, K., Rybicki, K. A., Maskoliunas, M., Zdanavicius, J., Pakstiene, E., Hodgkin, S. WTFU Transient Classification Report for 2021-01-12: 2021TNSCR.123....1Z

25. Zielinski, P., Gezer, I., Gromadzki, M., Wyrzykowski, L., Lam, M. C., Ihanec, N., Kruszynska, K., Rybicki, K. A., Maskoliunas, M., Zdanavicius, J., Pakstiene, E., Hodgkin, S. Gaia20fnr/AT2020ably is bright microlensing event based on LT/SPRAT and

Gemini/GMOS-N spectra: 2021ATel14316....1Z

26. Gezer, I., Zielinski, P., Wyrzykowski, L., Gromadzki, M., Kruszynska, K., Rybicki K. A., Ihanec, N., Zdanavicius, J., Maskoliunas, M., Pakstiene, E., Hodgkin, S. GEMINI/GMOS-S spectroscopic classification of Gaia microlensing event candidates (part 2) :2021ATel14617....1G

Astrospektroskopijos ir egzoplanetų grupė

Straipsniai WoS žurnaluose:

1) Tautvaišienė, G., Viscasillas Vázquez, C., Mikolaitis, Š., Stonkutė, E., Minkevičiūtė, R., Drazdauskas, A., & Bagdonas, V., Abundances of neutron-capture elements in thin- and thick-disc stars in the solar neighborhood, 2021, Astronomy & Astrophysics, 649, A126.

2) Miglio A., Chiappini C., Mackereth J. T., Davies G. R., Brogaard K., Casagrande L., Chaplin W. J., Girardi L., Kawata D., Khan S., Izzard R., Montalbán J., Mosser B., Vincenzo F., Bossini D., Noels A., Rodrigues T., Valentini M., Mandel I., Age dissection of the Milky Way discs: Red giants in the Kepler field, 2021, Astronomy and Astrophysics, 645, A85.

3) Magrini, L., Vescovi, D., Casali, G., Cristallo, S., Viscasillas Vázquez, C., Cescutti, G., Spina, L., Van Der Swaelmen, M., & Randich, S., Magnetic-buoyancy-induced mixing in AGB stars: a theoretical explanation of the non-universal relation of [Y/Mg] to age, 2021, Astronomy and Astrophysics, 646, L2.

4) Brogaard, K., Arentoft, T., Jessen-Hansen, J., Miglio, A., Asteroseismology of overmassive, undermassive, and potential past members of the open cluster NGC 6791, 2021, Monthly Notices of the Royal Astronomical Society, 507, 1.

5) Brogaard, K., Grundahl, F., Sandquist, E. L., Slumstrup, D., Jensen, M. L., Thomsen, J. B., Jørgensen, J. H., Larsen, J. R., Bjørn, S. T., Sørensen, C. T. G., Bruntt, H., Arentoft, T., Frandsen, S., Jessen-Hansen, J., Orosz, J. A., Mathieu, R., Geller, A., Ryde, N., Stello, D., Meibom, S., Platais, I., Age and helium content of the open cluster NGC 6791 from multiple eclipsing binary members. III. Constraints from a subgiant, 2021, Astronomy & Astrophysics, 649, A178.

6) Miglio, A., Girardi, L., Grundahl, F., Mosser, B., Bastian, N., Bragaglia, A., Brogaard, K., Buldgen, G., Chantereau, W., Chaplin, W., Chiappini, C., Dupret, M. A., Eggenberger, P., Gieles, M., Izzard, R., Kawata, D., Karoff, Ch., Lagarde, N., Mackereth, T., Magrin, D., Meynet, G., Michel, E., Montalbán, J., Nascimbeni, V., Noels, A., Piotto, G., Ragazzoni, R., Soszyński, I., Tolstoy, E., Toonen, S., Triaud, A., Vincenzo, F., Haydn, 2021, Experimental Astronomy, 51, 3.

7) Handberg, R., Lund, M. N., White, T. R., Hall, O. J., Buzasi, D. L., Pope, B. J. S., Hansen, J. S., von Essen, C., Carboneau, L., Huber, D., Vanderspek, R. K., Fausnaugh, M. M., Tenenbaum, P., Jenkins, J. M., T'DA Collaboration, TESS Data for Asteroseismology: Photometry, 2021, The Astronomical Journal, 162, 4, 170.

8) Franchini, M., Morossi, C., Di Marcantonio, P., Chavez, M., Adibekyan, V., Bensby, T., Bragaglia, A., Gonneau, A., Heiter, U., Kordopatis, G., Magrini, L., Romano, D., Sbordone, L., Smiljanic, R., Tautvaišienė, G., Gilmore, G., Randich, S., Bayo, A., Carraro, G., Morbidelli, L., & Zaggia, S., The Gaia-ESO Survey: Oxygen Abundance in the Galactic Thin and Thick Disks, 2021, Astronomical Journal, 161, 9.

9) Magrini, L., Smiljanic, R., Franciosini, E., Pasquini, L., Randich, S., Casali, G., Viscasillas Vazquez, C., Bragaglia, A., Spina, L., Biazzo, K., Tautvaisiene, G., Masseron, T., Van der Swaelmen, M., Pancino, E., Jimenez-Esteban, F., Guiglion, G., Martell, S., Bensby, T., D'Orazi, V., Baratella, M., Korn, A., Jofre, P., Gilmore, G., Worley, C., Hourihane, A., Gonneau, A., Sacco, G. G., & Morbidelli, L., The Gaia-ESO survey: Lithium abundances in open cluster Red Clump stars, 2021, Astronomy & Astrophysics, 655, A23.

10) Romano, D., Magrini, L., Randich, S., Casali, G., Bonifacio, P., Jeffries, R. D., Matteucci, F., Franciosini, E., Spina, L., Guiglion, G., Chiappini, C., Mucciarelli, A., Ventura, P., Grisoni, V., Bellazzini, M., Bensby, T., Bragaglia, A., de Laverny, P., Korn, A. J., Martell, S. L., Tautvaišienė, G., Carraro, G., Gonneau, A., Jofré, P., Pancino, E., Smiljanic, R., Vallenari, A., Fu, X., Gutiérrez Albarrán, M. L., Jiménez-Esteban, F. M., Montes, D., Damiani, F., Bergemann, M., & Worley, C., The Gaia-ESO Survey: Galactic evolution of lithium from iDR6, 2021, Astronomy & Astrophysics, 653, A72.

11) Baratella, M., D'Orazi, V., Sheminova, V., Spina, L., Carraro, G., Gratton, R., Magrini, L., Randich, S., Lugaro, M., Pignatari, M., Romano, D., Biazzo, K., Bragaglia, A., Casali, G., Desidera, S., Frasca, A., de Silva, G., Melo, C., Van der Swaelmen, M., Tautvaišienė, G., Jiménez-Esteban, F. M., Gilmore, G., Bensby, T., Smiljanic, R., Bayo, A., Franciosini, E., Gonneau, A., Hourihane, A., Jofré, P., Monaco, L., Morbidelli, L., Sacco, G., Sbordone, L., Worley, C., & Zaggia, S., The Gaia-ESO Survey: a new approach to chemically characterising young open clusters. II. Abundances of the neutron-capture elements Cu, Sr, Y, Zr, Ba, La, and Ce, 2021, Astronomy & Astrophysics, 653, A67.

12) Magrini, L., Lagarde, N., Charbonnel, C., Franciosini, E., Randich, S., Smiljanic, R., Casali, G., Viscasillas Vázquez, C., Spina, L., Biazzo, K., Pasquini, L., Bragaglia, A., Van der Swaelmen, M., Tautvaišienė, G., Inno, L., Sanna, N., Prisinzano, L., Degl'Innocenti, S., Prada Moroni, P., Roccatagliata, V., Tognelli, E., Monaco, L., de Laverny, P., Delgado-Mena, E., Baratella, M., D'Orazi, V., Vallenari, A., Gonneau, A., Worley, C., Jiménez-Esteban, F., Jofre, P., Bensby, T., François, P., Guiglion, G., Bayo, A., Jeffries, R. D., Binks, A. S., Gilmore, G., Damiani, F., Korn, A., Pancino, E., Sacco, G. G., Hourihane, A., Morbidelli, L., & Zaggia, S., The Gaia-ESO survey: Mixing processes in low-mass stars traced by lithium abundance in cluster and field stars, 2021,

Astronomy & Astrophysics, 651, A84.

13) Heiter, U., Lind, K., Bergemann, M., Asplund, M., Mikolaitis, Š., Barklem, P. S., Masseron, T., de Laverny, P., Magrini, L., Edvardsson, B., Jönsson, H., Pickering, J. C., Ryde, N., Bayo Arán, A., Bensby, T., Casey, A. R., Feltzing, S., Jofré, P., Korn, A. J., Pancino, E., Damiani, F., Lanzafame, A., Lardo, C., Monaco, L., Morbidelli, L., Smiljanic, R., Worley, C., Zaggia, S., Randich, S., and Gilmore, G. F., 2021, Astronomy and Astrophysics, 645, A106, DOI 10.1051/0004-6361/201936291

14) Brogaard, K., Pakštienė, E., Grundahl, F., Mikolaitis, Š., Tautvaišienė, G., Slumstrup, D., Talens, G. J. J., VandenBerg, D. A., Miglio, A., Arentoft, T., Kjeldsen, H., Janulis, R., Drazdauskas, A., Marchini, A., Minkevičiūtė, R., Stonkutė, E., Bagdonas, V., Fredslund Andersen, M., Jessen-Hansen, J., Pallé, P. L., Dorval, P., Snellen, I. A. G., Otten, G. P. P. L., & White, T. R., Properties of the Hyades, the eclipsing binary HD 27130, and the oscillating red giant ε Tauri, 2021, Astronomy & Astrophysics, 645, A25.

15) von Essen, C., Mallonn, M., Piette, A., Cowan, N. B., Madhusudhan, N., Agol, E., Antoci, V., Poppenhaeger, K., Stassun, K. G., Khalafinejad, S., & Tautvaišienė, G., TESS unveils the optical phase curve of KELT-1b. Thermal emission and ellipsoidal variation from the brown dwarf companion along with the stellar activity, 2021, Astronomy & Astrophysics, 648, A71.

16) McCloat, S., von Essen, C., & Fieber-Beyer, S., Atmospheric Transmission Spectroscopy of Hot Jupiter KELT-10b using Synthetic Telluric Correction Software, 2021, Astronomical Journal, 162, 132.

17) Marciniak, A., Ďurech, J., Alí-Lagoa, V., Ogłoza, W., Szakáts, R., Müller, T. G., Molnár, L., Pál, A., Monteiro, F., Arcoverde, P., Behrend, R., Benkhaldoun, Z., Bernasconi, L., Bosch, J., Brincat, S., Brunetto, L., Butkiewicz-Bąk, M., Del Freo, F., Duffard, R., Evangelista-Santana, M., Farroni, G., Fauvaud, S., Fauvaud, M., Ferrais, M., Geier, S., Golonka, J., Grice, J., Hirsch, R., Horbowicz, J., Jehin, E., Julien, P., Kalup, C., Kamiński, K., Kamińska, M. K., Kankiewicz, P., Kecskeméthy, V., Kim, D.-H., Kim, M.-J., Konstanciak, I., Krajewski, J., Kudak, V., Kulczak, P., Kundera, T., Lazzaro, D., Manzini, F., Medeiros, H., Michimani-Garcia, J., Morales, N., Nadolny, J., Oszkiewicz, D., Pakštienė, E., Pawłowski, M., Perig, V., Pilcher, F., Pinel, P., Podlewska-Gaca, E., Polakis, T., Richard, F., Rodrigues, T., Rondón, E., Roy, R., Sanabria, J. J., Santana-Ros, T., Skiff, B., Skrzypek, J., Sobkowiak, K., Sonbas, E., Stachowski, G., Strajnic, J., Trela, P., Tychoniec, Ł., Urakawa, S., Verebelyi, E., Wagrez, K., Żejmo, M., & Żukowski, K., Properties of slowly rotating asteroids from the Convex Inversion Thermophysical Model, 2021, Astronomy and Astrophysics, 654, A87.

18) Benni, P., Burdanov, A. Y., Krushinsky, V. V., Bonfanti, A., Hébrard, G., Almenara, J. M., Dalal, S., Demangeon, O. D. S., Tsantaki, M., Pepper, J., Stassun, K. G., Vanderburg, A., Belinski, A., Kashaev, F., Barkaoui, K., Kim, T., Kang, W., Antonyuk, K., Dyachenko, V. V., Rastegaev, D. A., Beskakotov, A., Mitrofanova, A. A., Pozuelos, F. J., Kuznetsov, E. D., Popov, A., Kiefer, F., Wilson, P. A., Ricker, G., Vanderspek, R.,

Latham, D. W., Seager, S., Jenkins, J. M., Sokov, E., Sokova, I., Marchini, A., Papini, R., Salvaggio, F., Banfi, M., Baştürk, Ö., Torun, Ş., Yalçınkaya, S., Ivanov, K., Valyavin, G., Jehin, E., Gillon, M., Pakštienė, E., Hentunen, V.-P., Shadick, S., Bretton, M., Wünsche, A., Garlitz, J., Jongen, Y., Molina, D., Girardin, E., Grau Horta, F., Naves, R., Benkhaldoun, Z., Joner, M. D., Spencer, M., Bieryla, A., Stevens, D. J., Jensen, E. L. N., Collins, K. A., Charbonneau, D., Quintana, E. V., Mullally, S. E., & Henze, C. E., Discovery of a young low-mass brown dwarf transiting a fast-rotating F-type star by the Galactic Plane eXoplanet (GPX) survey, 2021, Monthly Notices of the Royal Society, 505, 4956.

19) Baluev, R. V., Sokov, E. N., Sokova, I. A., Shaidulin, V. Sh., Veselova, A. V., Aitov, V. N., Mitiani, G. Sh., Valeev, A. F., Gadelshin, D. R., Gutaev, A. G., Beskin, G. M., Valyavin, G. G., Antonyuk, K., Barkaoui, K., Gillon, M., Jehin, E., Delrez, L., Guðmundsson, S., Dale, H. A., Fernández-Lajús, E., Di Sisto, R. P., Bretton, M., Wunsche, A., Hentunen, V. -P., Shadick, S., Jongen, Y., Kang, W., Kim, T., Pakštienė, E., Qvam, J. K. T., Knight, C. R., Guerra, P., Marchini, A., Salvaggio, F., Papini, R., Evans, P., Salisbury, M., Garlitz, J., Esseiva, N., Ogmen, Y., Bosch-Cabot, P., Selezneva and, A., Hinse, T. C., Massive Search for Spot- and Facula-Crossing Events in 1598 Exoplanetary Transit Light Curves, 2021, Acta Astronomica, 71, 1.

Kiti straipsniai LMT patvirtintose duomenų bazėse:

1) Mieczkowska, I., Marciniak, A., Hirsch, R., Kaminski, K., Kaminska, M. K., Polinska, M., Oszkiewicz, D., Sobkowiak, K., Wróblewski, R., Zukowski, K., Pakštiene, E., Ogloza, W., & Drózdz, M., Serendipitous Asteroids, 2021, Minor Planet Bulletin, 48, 352.

Atomų struktūros skaičiavimų grupė

Straipsniai WoS žurnaluose:

1. **G. Gaigalas**, D. Kato, Crystal Field Module for the General Relativistic Atomic Structure Package, *Computer Physics Communication* **261**, 107772 (2021). (https://doi.org/10.1016/j.cpc.2020.107772)

2. A. Papoulia, S. Schiffmann, J. Bieroń, **G. Gaigalas**, M. Godefroid, Z. Harman, P. Jönsson, N.S. Oreshkina, P. Pyykkö, I.I. Tupitsyn, *Ab initio* electronic factors of the *A* and *B* hyperfine structure constants for the $5s^2 5p 6s\ ^{1,3}P^o_1$ states in Sn I. *Phys. Rev. A* **103**, 022815 (2021). (10.1103/PhysRevA.103.022815)

3. H. Dong, J. Jiang, Zh. Wu, Ch. Dong, **G. Gaigalas**, Calculations of Atomic Polarizability for Beryllium using MCDHF method, *Chin. Phys. B* **30**, No. 4, 043103 (2021). (10.1088/1674-1056/abd92d)

4. **G. Gaigalas**, S. Fritzsche, Angular coefficients for symmetry-adapted configuration states in *jj*-coupling, *Computer Physics Communication* **267**, 108086 (2021).

(https://doi.org/10.1016/j.cpc.2021.108086)

5. **G. Gaigalas**, **P. Rynkun**, **L. Radžiūtė**, P. Jönsson, K. Wang, Energy and Transition Data Computations for P-like Ions: As, Kr, Sr, Zr, Mo, and W, *Atomic Data and Nuclear Data Tables* **141**, 101428 (2021). (https://doi.org/10.1016/j.adt.2021.101428)

6. K. Hotokezaka, M. Tanaka, D. Kato, and **G. Gaigalas**, Nebular Emission from Lanthanide-rich Ejecta of Neutron Star Merger, *Monthly Notices of the Royal Astronomical Society* **506**, 5863-5877 (2021). (https://doi.org/10.1093/mnras/stab1975)

7. L. Radžiūtė, **G. Gaigalas**, D. Kato, **P. Rynkun**, and M. Tanaka. Extended Calculations of Energy Levels and Transition Rates for Singly Ionized Lanthanide Elements. II. Tb–Yb, *The Astrophysical Journal Supplement Series* **257**, 29 (2021). (https://doi.org/10.3847/1538-4365/ac1ad2)

8. X. H. Zhang, G. Del Zanna, K. Wang, **P. Rynkun**, P. Jönsson, M. Godefroid, **G. Gaigalas**, **L. Radžiūtė,** L. H. Ma, R. Si, J. Xiao, Z. B. Chen, J. Yan, Y. Wu, and C. Y. Chen. Benchmarking Multiconfiguration Dirac–Hartree–Fock Calculations for Astrophysics: Si-like Ions from Cr XI to Zn XVII, *The Astrophysical Journal Supplement Series* **257**, 56 (2021). (https://doi.org/10.3847/1538-4365/ac2a3f)

Atominių procesų fizikos grupė

Straipsniai WoS žurnaluose:

1. A. Kynienė, V. Jonauskas, Electron-impact ionization of Ar2+, Astronomy & Astrophysics 656, A79 (2021). DOI: 10.1051/0004-6361/202141185

2. V. Roman, V. Jonauskas, S. Kučas, A. Gomonai, A. Gomonai, Y. Hutych, Excitation of the 6d 2D - 6p 2Po Radiative Transitions in the Pb+ Ion by Electron Impact, Atoms 9, 102 (2021). DOI: 10.3390/atoms9040102

3. A. Kynienė, S. Kučas, Š. Masys, V. Jonauskas, Electron-impact ionization for the levels of Fe3+, Atomic Data and Nuclear Data Tables 142, 101445 (2021). DOI: 10.1016/j.adt.2021.101445

4. S. Kučas, A. Kynienė, Š. Masys, V. Jonauskas, Multiple photoionization for the K shell in the Fe atom, Astronomy & Astrophysics 654, A74 (2021). DOI: 10.1051/0004-6361/202140891

5. J. Koncevičiūtė, V. Jonauskas, Electron-impact single, double, and triple ionization of B+, Phys. Rev. A 104, 042804 (2021). DOI: 10.1103/PhysRevA.104.042804

6. R. Karpuškienė, R. Kisielius, Theoretical level energies and transition data for ion W29+, Atomic Data and Nuclear Data Tables 137, 101383 (2021). DOI: 10.1016/j.adt.2020.101383

7. Š. Masys, V. Jonauskas, Ž. Rinkevicius, Electronic g-Tensor Calculations for Dangling Bonds in Nanodiamonds, J. Phys. Chem. A 125, 8249–8260 (2021). DOI: 10.1021/acs.jpca.1c06253

Branduolio ir elementariųjų dalelių fizikos grupė

Straipsniai WoS žurnaluose:

1. Efimov resonances above four-boson threshold. A. Deltuva, Phys. Rev. C 103, 064001 (2021).

2. Recombination in the universal four-fermion system. A. Deltuva, Phys. Lett. B 820, 136599 (2021).

3. Van der Waals interaction as the starting point for an effective field theory. D. Odell, A. Deltuva, L. Platter, Phys. Rev. A 104, 023306 (2021).

4. Vytautas Dūdėnas, Maximilian Löschner, "Vacuum expectation value renormalization in the standard model and beyond ", Phys. Rev. D 103, 076010.

5. D. Jurčiukonis and L. Lavoura, **"**Fitting the Zbb vertex in the two-Higgs-doublet model and the three-Higgs-doublet model", JHEP 07 (2021) 195.

6. A comprehensive analysis of differential cross sections and analyzing powers in the proton-deuteron breakup channel at 135 MeV. H. Tavakoli-Zaniani, M. Eslami-Kalantari, H.R. Amir-Ahmadi, M.T. Bayat, A. Deltuva, J. Golak, N. Kalantar-Nayestanaki, St. Kistryn, A. Kozela, H. Mardanpour, J.G. Messchendorp, M. Mohammadi-Dadkan, A. Ramazani-Moghaddam-Arani, R. Ramazani-Sharifabadi, R. Skibinski, E. Stephan, H. Witala, Eur. Phys. J. A 57, 58 (2021).

7. Precision measurements of differential cross sections and analyzing powers in elastic deuteron-deuteron scattering at 65 MeV/nucleon. R. Ramazani-Sharifabadi, A. Ramazani-Moghaddam-Arani, H.R. Amir-Ahmadi, C.D. Bailey, A. Deltuva, M. Eslami-Kalantari, N. Kalantar-Nayestanaki, St. Kistryn, A. Kozela, M. Mahjour-Shafiei, H. Mardanpour, J.G. Messchendorp, M. Mohammadi-Dadkan, E. Stephan, E.J. Stephenson, H. Tavakoli-Zaniani, Eur. Phys. J. A 57, 119 (2021).

8. Proton- 3He elastic scattering at intermediate energies. A. Watanabe, S. Nakai, Y. Wada, K. Sekiguchi, A. Deltuva, T. Akieda, D. Etoh, M. Inoue, Y. Inoue, K. Kawahara, H. Kon, K. Miki, T. Mukai, D. Sakai, S. Shibuya, Y. Shiokawa, T. Taguchi, H. Umetsu, Y. Utsuki, M. Watanabe, S. Goto, K. Hatanaka, Y. Hirai, T. Ino, D. Inomoto, A. Inoue, S. Ishikawa, M. Itoh, H. Kanda, H. Kasahara, N. Kobayashi, Y. Maeda, S. Mitsumoto, S. Nakamura, K. Nonaka, H. J. Ong, H. Oshiro, Y. Otake, H. Sakai, A. Taketani, A. Tamii, D. T. Tran, T. Wakasa, Y. Wakabayashi, T. Wakui, Phys. Rev. C 103, 044001 (2021)

Papildomai 63 straipsniai su CERN konsorciumu, sąrašo pabaigoje.

Kompleksinių fizinių ir socialinių sistemų grupė

Straipsniai WoS žurnaluose:

1. R. Kazakevičius and A. Kononovicius. Anomalous diffusion in nonlinear transformations of the noisy voter model, Physical Review E 103, 032154 (2021).

2. A. Kononovicius. Supportive interactions in the noisy voter model, Chaos, Solitons and Fractals 143, 110627 (2021).

3. V. Novičenko and I. Ratas: Unstable delayed feedback control to change sign of coupling strength for weakly coupled limit cycle oscillators, Chaos 31, 093138 (2021).

4. R. Kazakevicius, A. Kononovicius, B. Kaulakys, V. Gontis, Understanding the Nature of the Long-R*ange Memory Phenomenon in Socioeconomic Systems*, Entropy 23 (9) (2021).

Šaltųjų atomų ir kondensuotų molekulinių darinių grupė

Straipsniai WoS žurnaluose:

1. B. Kim, K.-T. Chen, S.-S. Hsiao, S.-Y. Wang, K.-B. Li, J. Ruseckas, G. Juzeliūnas, T. Kirova, M. Auzinsh, Y.-C. Chen, Y.-F. Chen and I. A. Yu, A weakly-interacting many-body system of Rydberg polaritons based on electromagnetically induced transparency, Commun. Phys. 4, 101 (2021).

2. M. Aidelsburger et al, Cold atoms meet lattice gauge theory, Phil. Trans. R. Soc. A 380, 20210064 (2021).

3. Voitechovič E., Stankevičiūtė J; Vektarienė A., Vektaris G., Jančienė R; Kuisienė N., Razumienė J., Meškys R. Bioamperometric Systems with Fructose Dehydrogenase From Gluconobacter japonicus for D-tagatose Monitoring. Electroanalysis. 33, 1393-1397, (2021).

4. R. Juršėnas, The A-model with mutually equal model parameters can lead to a Hilbert space model, Operators and Matrices, vol. 14, no. 4, 1319-1336 (2021).

5. V. Skorniakov, R. Leipus, G. Juzeliūnas, K. Staliūnas, Group testing: Revisiting the ideas, Nonlinear Analysis: Modelling and Control, 26 (3), 534 (2021).

6. Jelena Tamulienė; Alexander Snegursky; Liudmila Romanova; Vasyl Vukstich; Vasyl Rizak, Fragmentation of threonine under low-energy electron impact, The European physical journal. D., vol. 75, 2021

7. Aušra Nemeikaitė-Čėnienė; Audronė Marozienė; Lina Misevičienė; Jelena Tamulienė; Aliaksei Yantsevich; Narimantas Čėnas, 5Flavoenzyme-catalyzed single-electron

reduction of nitroaromatic antiandrogens: implications for their cytotoxicity, Free radical research, vol. 55, no. 3, 2021

8. Jonas Šarlauskas; Jelena Tamulienė; Svajonė Bekešienė; Alexander Kravcov, Benzimidazole derivatives as energetic materials: a theoretical study, Materials, vol. 14, iss. 15, 2021.

9. Jelena Tamulienė; Liudmila Romanova; Vasyl Vukstich; Alexander Snegursky, Fragmentation of tyrosine by low-energy electron impact, European physical journal D, vol. 75, 2021.

10. Muqaddar Abbas, Seyyed Hossein Asadpour, Hamid R. Hamedi, and Ziauddin, Optomechanically induced grating, Optics Express 29, 42306-42318 (2021).

11. Seyyed Hossein Asadpour, Teodora Kirova, Jing Qian, Hamid R. Hamedi, Gediminas Juzeliūnas and Emmanuel Paspalakis, Azimuthal modulation of electromagnetically induced grating using structured light, Scientific Reports 11, 20721 (2021).

12. Mahboubeh Mahdavi, Zahra Amini Sabegh, Hamid R. Hamedi, and Mohammad Mahmoudi, Orbital angular momentum transfer in molecular magnets, Phys. Rev. B 104, 094432 (2021).

13. Hamid R. Hamedi, Vassilios Yannopapas, Emmanuel Paspalakis, Spatially Structured Optical Effects in a Four-Level Quantum System Near a Plasmonic Nanostructure , Ann. Phys. (Berlin) 2100117,1-12 (2021).

14. Hamid R. Hamedi, Emmanuel Paspalakis, Vassilios Yannopapas, Effective Control of the Optical Bistability of a Three-Level Quantum Emitter Near a Nanostructured Plasmonic Metasurface, Photonics 8(7), 285 (2021).

15. Seyyed Hossein Asadpour, Emmanuel Paspalakis, and Hamid R. Hamedi, Exchange of optical vortices in symmetry-broken quantum systems, Phys. Rev. A 103, 063705 (2021).

16. Seyyed Hossein Asadpour, Edris Faizabadi, Viaceslav Kudriašov, Emmanuel Paspalakis and Hamid. R. Hamedi, Swapping of orbital angular momentum states of light in a quantum well waveguide, The European Physical Journal Plus 136, 457 (2021).

17. Hamid Reza Hamedi, Vassilios Yannopapas, Algirdas Mekys and Emmanuel Paspalakis, Control of Kerr nonlinearity in a four-level quantum system near a plasmonic nanostructure, Physica E: Low-dimensional Systems and Nanostructures, 130, 114662 (2021).

18. G. Žlabys, M. Račiūnas, and E. Anisimovas, Autoencoder-aided analysis of low-dimensional Hilbert spaces, Lithuanian Journal of Physics, Vol. 61, 205-214 (2021).

19. B. Huang, V. Novičenko, A. Eckardt, and G. Juzeliūnas, Floquet chiral hinge modes and their interplay with Weyl physics in a three-dimensional lattice, Physical Review B

104, 104312 (2021).

20. Giedrius Žlabys, Chu-hui Fan, Egidijus Anisimovas, and Krzysztof Sacha, Six-dimensional time-space crystalline structures, Physical Review B 103, L100301 (2021).

21. E. Gvozdiovas, P. Račkauskas, G. Juzeliūnas, Optical lattice with spin-dependent sub-wavelength barriers, SciPost Phys. **11**, 100 (2021).

22. Hamid R. Hamedi, Viačeslav Kudriašov, Ning Jia, Jing Qian, and Gediminas Juzeliūnas, Ferris wheel patterning of Rydberg atoms using electromagnetically induced transparency with optical vortex fields, Optics Letters 46, 4204-4207 (2021).

Žvaigždžių atmosferų fizikos grupė

Straipsniai WoS žurnaluose:

1. Dobrovolskas, V., Kolomiecas, E., Kučinskas, A., Klevas, J., Korotin, S. Abundance of barium in the atmospheres of red giants in the Galactic globular cluster NGC 104 (47 Tuc). Astronomy and Astrophysics, 2021, 656, A67, 11 pp.

Kiti straipsniai:

1. Kolomiecas, Edgaras, Dobrovolskas, Vidas, Kučinskas, Arūnas, Abundance of zirconium in the red giants of Galactic globular cluster 47 Tuc, The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun (CS20.5), virtually anywhere, March 2-4, 2021, http://coolstars20.cfa.harvard.edu/cs20half, id.168

Žvaigždžių sistemų laboratorija

Straipsniai WoS žurnaluose:

1. Leščinskaitė A., Stonkutė R. & Vansevičius V. 2021, AGB and RGB stars in the dwarf irregular galaxy Leo A, A&A, 647, id.A170; DOI: 10.1051/0004-6361/202037967

2. Naujalis R., Stonkutė R. & Vansevičius V. 2021, Deriving physical parameters of unresolved star clusters. VI. Adaptive aperture photometry of the M31 PHAT star clusters, A&A, 654, id.A6; DOI: 10.1051/0004-6361/202039306

3. Zubovas K. & King A. 2021, High-redshift SMBHs can grow from stellar-mass seeds via chaotic accretion, MNRAS, 501, 4289; DOI: 10.1093/mnras/stab004

Branduolio ir elementariųjų dalelių fizikos grupės straipsniai su CERN konsorciumu

1. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Oliveira, A. Rinkevičius, G. Tamulaitis]. Search for long-lived particles decaying in the CMS end cap muon detectors in proton-proton collisions at √s = 13 TeV // Physical review letters. College Park, MD : American Physical Society. ISSN 0031-9007. eISSN 1079-7114. 2021, vol. 127, no. 26, art. no. 261804, p. [1-19]. DOI: 10.1103/PhysRevLett.127.261804.

2. GEM Collaboration [from Lithuania: A. Juodagalvis]. Benchmarking LHC background particle simulation with the CMS triple-GEM detector // Journal of instrumentation. Bristol : IOP Publishing. ISSN 1748-0221. 2021, vol. 16, no. 12, art. no. P12026, p. [1-18]. DOI: 10.1088/1748-0221/16/12/P12026.

3. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius]. Selection of the silicon sensor thickness for the Phase-2 upgrade of the CMS Outer Tracker // Journal of instrumentation. Bristol : IOP Publishing. ISSN 1748-0221. 2021, vol. 16, no. 11, art. no. P11028, p. [1-41]. DOI: 10.1088/1748-0221/16/11/P11028.

4. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Oliveira, A. Rinkevičius, G. Tamulaitis]. Combined searches for the production of supersymmetric top quark partners in proton–proton collisions at √s = 13 TeV // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, no. 11, art. no. 970, p. [1-35]. DOI: 10.1140/epjc/s10052-021-09721-5.

5. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Oliveira, A. Rinkevičius, G. Tamulaitis]. Measurements of the electroweak diboson production cross sections in proton-proton collisions at √s= 5.02 TeV using leptonic decays // Physical review letters. College Park, MD : American Physical Society. ISSN 0031-9007. eISSN 1079-7114. 2021, vol. 127, no. 19, art. no. 191801, p. [1-19]. DOI: 10.1103/PhysRevLett.127.191801.

6. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Observation of forward neutron multiplicity dependence of dimuon acoplanarity in ultraperipheral Pb-Pb Collisions at √sNN=5.02 TeV // Physical review letters. College Park, MD : American Physical Society. ISSN 0031-9007. eISSN 1079-7114. 2021, vol. 127, no. 12, art. no. 122001, p. [1-19]. DOI: 10.1103/PhysRevLett.127.122001.

7. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Precision luminosity measurement in proton-proton collisions at √s= 13 TeV in 2015 and 2016 at CMS // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81,

8. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Constraints on the Initial State of Pb-Pb Collisions via Measurements of Z-Boson Yields and Azimuthal Anisotropy at √sNN=5.02 TeV // Physical review letters. College Park, MD : American Physical Society. ISSN 0031-9007. eISSN 1079-7114. 2021, vol. 127, no. 10, art. no. 102002, p. [1-19]. DOI: 10.1103/PhysRevLett.127.102002.

9. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Angular analysis of the decay $B^+ \rightarrow K^*(892)^+\mu^+\mu^-$ in proton-proton collisions at √s= 8 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 4, art. no. 124, p. [1-35]. DOI: 10.1007/JHEP04(2021)124.

10. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Constraints on anomalous Higgs boson couplings to vector bosons and fermions in its production and decay using the four-lepton final state // Physical review D. College Park, MD : American Physical Society. ISSN 2470-0010. eISSN 2470-0029. 2021, vol. 104, no. 5, art. no. 52004, p. [1-51]. DOI: 10.1103/PhysRevD.104.052004.

11. CMS Collaboration [from Lithuania: A. Juodagalvis, V. Dūdėnas, J. V. Vaitkus]. Correlations of azimuthal anisotropy Fourier harmonics with subevent cumulants in pPb collisions at √sNN=8.16TeV // Physical review C. College Park, MD : American Physical Society. ISSN 2469-9985. eISSN 2469-9993. 2021, vol. 103, iss. 1, art. no. 14902, p. [1-17]. DOI: 10.1103/PhysRevC.103.014902.

12. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Evidence for electroweak production of four charged leptons and two jets in proton-proton collisions at √s = 13 TeV // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 812, art. no. 135992, p. [1-25]. DOI: 10.1016/j.physletb.2020.135992.

13. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Evidence for Higgs boson decay to a pair of muons // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 1, art. no. 148, p. [1-68]. DOI: 10.1007/JHEP01(2021)148.

14. CMS Collaboration [from Lithuania: A. Juodagalvis, V. Dūdėnas, A. Rinkevičius, G. Tamulaitis, J. V. Vaitkus]. First measurement of large area jet transverse momentum spectra in heavy-ion collisions // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 5, art. no. 284, p. [1-48]. DOI: 10.1007/JHEP05(2021)284.

15. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. First measurement of the cross section for top quark pair production with additional charm jets using dileptonic final states in pp collisions at √s = 13TeV // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 820, art. no. 136565, p. [1-30]. DOI: 10.1016/j.physletb.2021.136565.

16. CMS Collaboration [from Lithuania: A. Juodagalvis, V. Dūdėnas, A. Rinkevičius, G. Tamulaitis, J. V. Vaitkus]. Measurement of b jet shapes in proton-proton collisions at √s= 5.02 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 5, art. no. 54, p. [1-35]. DOI: 10.1007/JHEP05(2021)054.

17. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Measurement of differential cross sections for Z bosons produced in association with charm jets in pp collisions at √s= 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 4, art. no. 109, p. [1-41]. DOI: 10.1007/JHEP04

18. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Oliveira, A. Rinkevičius, G. Tamulaitis]. Measurement of differential tt production cross sections in the full kinematic range using lepton+jets events from proton-proton collisions at √s = 13 TeV // Physical review D. College Park, MD : American Physical Society. ISSN 2470-0010. eISSN 2470-0029. 2021, vol. 104, no. 9, art. no. 92013, p. [1-93]. DOI: 10.1103/PhysRevD.104.092013.

19. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Measurement of differential tt production cross sections using top quarks at large transverse momenta in pp collisions at √s= 13 TeV // Physical review D. College Park, MD : American Physical Society. ISSN 2470-0010. eISSN 2470-0029. 2021, vol. 103, iss. 5, art. no. 052008, p. [1-43]. DOI: 10.1103/PhysRevD.103.052008.

20. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Measurement of prompt D^0 and anti-D^0 meson azimuthal anisotropy and search for strong electric fields in PbPb collisions at $\sqrt{s}_{NN}$= 5.02 TeV // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 816, art. no. 136253, p. [1-25]. DOI: 10.1016/j.physletb.2021.136253.

21. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Measurement of prompt open-charm production cross sections in proton-proton collisions at $\sqrt{s}$ = 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 11, art. no. 225, p. [1-48]. DOI: 10.1007/JHEP11(2021)225.

22. CMS Collaboration [from Lithuania: A. Juodagalvis, V. Dūdėnas, A. Rinkevičius, G. Tamulaitis, J. V. Vaitkus]. Measurement of the azimuthal anisotropy of Y(1S) and Y(2S) mesons in PbPb collisions at $\sqrt{s}_{NN}$= 5.02 TeV // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 819, art. no. 136385, p. [1-23]. DOI: 10.1016/j.physletb.2021.136385.

23. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Measurement of the CP-violating phase ϕ_s in the B0s → J/ψ ϕ(1020) → $\mu^+\mu^-K^+K^-$ channel in proton-proton collisions at $\sqrt{s}$= 13 TeV // Physics Letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 816, art. no. 136188, p. [1-27]. DOI: 10.1016/j.physletb.2021.136188.

24. CMS Collaboration [from Lithuania: A. Juodagalvis, V. Dūdėnas, A. Rinkevičius, G. Tamulaitis, J. V. Vaitkus]. Measurement of the inclusive and differential Higgs boson production cross sections in the leptonic WW decay mode at $\sqrt{s}$= 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 3, art. no. 3, p. [1-48]. DOI: 10.1007/JHEP03(2021)003.

25. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Measurement of the Wγ production cross section in proton-proton collisions at $\sqrt{s}$=13 TeV and constraints on effective field theory coefficients // Physical review letters. College Park, MD : American Physical Society. ISSN 0031-9007. eISSN 1079-7114. 2021, vol. 126, no. 25, art. no. 252002, p. [1-18]. DOI: 10.1103/PhysRevLett.126.252002.

26. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Measurement of the Z boson differential production cross section using its invisible decay mode (Zνν) in proton-proton collisions at $\sqrt{s}$= 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 5, art. no. 205, p. [1-43]. DOI: 10.1007/JHEP05(2021)205.

27. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Measurements of Higgs boson production cross sections and couplings in the diphoton decay channel

28. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Measurements of production cross sections of polarized same-sign W boson pairs in association with two jets in proton-proton collisions at $\sqrt{s}$= 13 TeV // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 812, art. no. 136018, p. [1-27]. DOI: 10.1016/j.physletb.2020.136018.

29. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Measurements of the differential cross sections of the production of Z+jets and γ+jets and of Z boson emission collinear with a jet in pp collisions at $\sqrt{s}$ = 13 TeV // Journal of high energy physics. New

York : Springer. ISSN 1029-8479. 2021, vol. 5, art. no. 285, p. [1-43]. DOI: 10.1007/JHEP05(2021)285.

30. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Measurements of the pp → Wγγ and pp → Zγγ cross sections at √s= 13 TeV and limits on anomalous quartic gauge couplings // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 10, art. no. 174, p. [1-36]. DOI: 10.1007/JHEP10(2021)174.

31. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Observation of a new excited beauty strange baryon decaying to Ξ_b^- $\pi^+\pi^-$ // Physical review letters. College Park, MD : American Physical Society. ISSN 0031-9007. eISSN 1079-7114. 2021, vol. 126, no. 25, art. no. 252003, p. [1-19]. DOI: 10.1103/PhysRevLett.126.252003.

32. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Oliveira, A. Rinkevičius, G. Tamulaitis]. Observation of tW production in the single-lepton channel in pp collisions at √s = 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 11, art. no. 111, p. [1-40]. DOI: 10.1007/JHEP11(2021)111.

33. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Oliveira, A. Rinkevičius, G. Tamulaitis]. Probing effective field theory operators in the associated production of top quarks with a Z boson in multilepton final states at √s = 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 12, art. no. 83, p. [1-55]. DOI: 10.1007/JHEP12(2021)083.

34. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Oliveira, A. Rinkevičius, G. Tamulaitis]. Search for a heavy Higgs boson decaying into two lighter Higgs bosons in the ττbb final state at 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 11, art. no. 57, p. [1-54]. DOI: 10.1007/JHEP11(2021)057.

35. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for dark photons in Higgs boson production via vector boson fusion in proton-proton collisions at √s = 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 3, art. no. 11, p. [1-43]. DOI: 10.1007/JHEP03(2021)011.

36. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for lepton-flavor violating decays of the Higgs boson in the μτ and eτ final states in proton-proton collisions at √s = 13 TeV // Physical review D. College Park, MD : American Physical Society. ISSN 2470-0010. eISSN 2470-0029. 2021, vol. 104, no. 3, art. no. 32013, p. [1-31]. DOI: 10.1103/PhysRevD.104.032013.

37. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for long-lived particles decaying to jets with displaced vertices in proton-proton collisions at

38. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Search for long-lived particles using displaced jets in proton-proton collisions at √s= 13 TeV // Physical review D. College Park, MD : American Physical Society. ISSN 2470-0010. eISSN 2470-0029. 2021, vol. 104, no. 1, art. no. 012015, p. [1-38]. DOI: 10.1103/PhysRevD.104.012015.

39. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Oliveira, A. Rinkevičius, G. Tamulaitis]. Search for new particles in events with energetic jets and large missing transverse momentum in proton-proton collisions at √s = 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 11, art. no. 153, p. [1-72]. DOI: 10.1007/JHEP11(2021)153.

40. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for new physics in top quark production with additional leptons in proton-proton collisions at √s= 13 TeV using effective field theory // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 3, art. no. 95, p. [1-55]. DOI: 10.1007/JHEP03(2021)095.

41. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for nonresonant Higgs boson pair production in final states with two bottom quarks and two photons in proton-proton collisions at √s = 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 3, art. no. 257, p. [1-57]. DOI: 10.1007/JHEP03(2021)257.

42. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for resonant and nonresonant new phenomena in high-mass dilepton final states at √s = 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 7, art. no. 208, p. [1-62]. DOI: 10.1007/JHEP07(2021)208.

43. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for singly and pair-produced leptoquarks coupling to third-generation fermions in proton-proton collisions at √s= 13 TeV // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 819, art. no. 136446, p. [1-27]. DOI: 10.1016/j.physletb.2021.136446.

44. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for supersymmetry in final states with two oppositely charged same-flavor leptons and missing transverse momentum in proton-proton collisions at √s= 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 4, art. no. 123, p. [1-62]. DOI: 10.1007/JHEP04(2021)123.

45. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Search for the lepton flavor violating decay $\tau \rightarrow 3\mu$ in proton-proton collisions at √s= 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 1, art. no. 163, p. [1-37]. DOI: 10.1007/JHEP01(2021)163.

46. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for the rare decay of the W boson into a pion and a photon in proton-proton collisions at √s= 13 TeV // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 819, art. no. 136409, p. [1-24]. DOI: 10.1016/j.physletb.2021.136409.

47. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for top squark production in fully-hadronic final states in proton-proton collisions at √s= 13 TeV // Physical review D. College Park, MD : American Physical Society. ISSN 2470-0010. eISSN 2470-0029.

48. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for top squarks in final states with two top quarks and several light-flavor jets in proton-proton collisions at √s = 13 TeV // Physical review D. College Park, MD : American Physical Society. ISSN 2470-0010. eISSN 2470-0029. 2021, vol. 104, no. 3, art. no. 32006, p. [1-26]. DOI: 10.1103/PhysRevD.104.032006.

49. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for W′ bosons decaying to a top and a bottom quark at √s= 13 TeV in the hadronic final state // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 820, art. no. 136535, p. [1-26]. DOI: 10.1016/j.physletb.2021.136535.

50. CMS Collaboration [from Lithuania: A. Juodagalvis, V. Dūdėnas, A. Rinkevičius, G. Tamulaitis, J. V. Vaitkus]. Studies of charm and beauty hadron long-range correlations in pp and pPb collisions at LHC energies // Physics letters B. Amsterdam : Elsevier. ISSN 0370-2693. eISSN 1873-2445. 2021, vol. 813, art. no. 136036, p. [1-25]. DOI: 10.1016/j.physletb.2020.136036.

51. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Study of Drell-Yan dimuon production in proton-lead collisions at √sNN= 8.16 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 5, art. no. 182, p. [1-47]. DOI: 10.1007/JHEP05(2021)182.

52. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Study of Z boson plus jets events using variables sensitive to double-parton scattering in pp collisions at 13 TeV // Journal of high energy physics. New York : Springer. ISSN 1029-8479. 2021, vol. 10, art. no. 176, p. [1-42]. DOI: 10.1007/JHEP10(2021)176.

53. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. The very forward CASTOR calorimeter of the CMS experiment // Journal of instrumentation. Bristol : IOP Publishing. ISSN 1748-0221. 2021, vol. 16, iss. 2, art. no. P02010, p. [1-65]. DOI: 10.1088/1748-0221/16/02/P02010.

54. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis]. Search for charged Higgs bosons produced in vector boson fusion processes and decaying into vector boson pairs in proton–proton collisions at √s = 13 TeV // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, no. 8, art. no. 723, p. [1-29]. DOI: 10.1140/epjc/s10052-021-09472-3.

55. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Search for a heavy vector resonance decaying to a Z boson and a Higgs boson in proton-proton collisions at √s = 13 TeV // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, no. 8, art. no. 688, p. [1-31]. DOI: 10.1140/epjc/s10052-021-09348-6.

56. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. MUSiC: a model-unspecific search for new physics in proton–proton collisions at √s = 13 TeV // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, no. 7, art. no. 629, p. [1-49]. DOI: 10.1140/epjc/s10052-021-09236-z.

57. CMS Collaboration [from Lithuania: A. Juodagalvis, M. Ambrozas, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Measurements of production cross sections of the Higgs boson in the four-lepton final state in proton–proton collisions at √s = 13 TeV // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, no. 6, art. no. 488, p. [1-47]. DOI: 10.1140/epjc/s10052-021-09200-x.

58. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Measurement of the Higgs boson production rate in association with top quarks in final states with electrons, muons, and hadronically decaying tau leptons at √s = 13 TeV // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, art. no. 378, p. [1-51]. DOI: 10.1140/epjc/s10052-021-09014-x.

59. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Development and validation of HERWIG 7 tunes from CMS underlying-event measurements //

European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, no. 4, art. no. 312, p. [1-47]. DOI: 10.1140/epjc/s10052-021-08949-5.

60. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Measurements of pp→ZZ production cross sections and constraints on anomalous triple gauge couplings at √s = 13 TeV // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, no. 3, art. no. 200, p. [1-30]. DOI: 10.1140/epjc/s10052-020-08817-8.

61. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis]. Search for top squark pair production using dilepton final states in pp collision data collected at √s = 13 TeV // European physical journal C. New York : Springer. ISSN 1434-6044. eISSN 1434-6052. 2021, vol. 81, no. 4, art. no. 312, p. [1-30]. DOI: 10.1140/epjc/s10052-020-08701-5.

62. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. Electron and photon reconstruction and identification with the CMS experiment at the CERN LHC // Journal of instrumentation. Bristol : IOP Publishing. 2021, vol. 16, iss. 5, art. no. P05014, p. [1-81]. DOI: 10.1088/1748-0221/16/05/P05014.

63. CMS Collaboration [from Lithuania: A. Juodagalvis, A. Rinkevičius, G. Tamulaitis, A. Vaitkevičius]. In-medium modification of dijets in PbPb collisions at √sNN = 5.02 TeV // Journal of high energy physics. New York : Springer. 2021, vol. 5, art. no. 116, p. [1-44]. DOI: 10.1007/JHEP05(2021)116.