

LISTA DE LUCRĂRI ȘTIINȚIFICE

1. Lista celor mai relevante 10 lucrări științifice

1. **BUCUR, F., MATAACHE, L.-C., LUPOAE, M.,**
A numerical study on explosively formed projectiles in low density environments for typical metallic liners materials,
UPB Scientific Bulletin, Series B: Chemistry and Materials Science, vol. 86, no. 3, pp. 213-226, 2024.
https://www.scientificbulletin.upb.ro/rev_docs_arhiva/rez3cf_283842.pdf
Indexat Web of Science, WOS:001301114000017
2. **BUCUR, F., MATAACHE, L.-C.,**
Assessment of Multilayered Plates with Hyperelastic Coatings Subjected to Dynamic Loadings by Impact at Low Velocities,
Materiale Plastice, vol. 61, no. 1, pp. 170-184, 2024.
<https://doi.org/10.37358/MP.24.1.5712>
Indexat Web of Science, WOS:001198444200010
3. **IFTIMIE, B., CASAPU, A.C., LUPOAE, M., BUCUR, F., TRANĂ, E.,**
Experimental tests related to the multi-layered ballistic panel behaviour under blast and fragments impact,
UPB Scientific Bulletin, Series B: Chemistry and Materials Science, vol. 86, no. 1, pp. 273-289, 2024.
https://www.scientificbulletin.upb.ro/rev_docs_arhiva/fullcd9_209760.pdf
Indexat Web of Science, WOS:001196525500006
4. **CHIRIAC, O.-G., BUCUR, F., ROTARIU, A.-N., TRANĂ, E.,**
The Application of Mott's Distribution in the Fragmentation of Steel Coaxial Cylinders,
Materials, vol. 16, no. 17: 5783, 2023.
<https://doi.org/10.3390/ma16175783>
Indexat Web of Science, WOS:001062513900001
5. **ROTARIU, A., TRANĂ, E., MATAACHE, L., CIRMACHI-MATEI, M.-V., SANDU, S., MOLDOVEANU, C.-E., BUCUR, F.*,**
Experimental study on the dynamic response of polyurethane/fly ash ceramic foam,
Materiale Plastice, vol. 58, no. 1, pp. 106-112, 2021.
<https://doi.org/10.37358/MP.21.1.5450>
Indexat Web of Science, WOS:000637398100010

6. TOADER, G., DIACON, A., RUSEN, E., RIZEA, F., TEODORESCU, M., STĂNESCU, P., DAMIAN, C., ROTARIU, A., TRANĂ, E., **BUCUR, F.**, GINGHINĂ, R.,
A facile synthesis route of hybrid polyurea-polyurethane-MWCNTs nanocomposite coatings for ballistic protection and experimental testing in dynamic regime,
Polymers, vol. 13, no. 10: 1618, 2021.
<https://doi.org/10.3390/polym13101618>
Indexat Web of Science, WOS:000655163400001
7. **BUCUR, F.**, ROTARIU, A., MATACHE, L., BACIU, F., JIGA, G., TRANĂ, E.,
Experimental and Numerical Study on the Behavior of Dyneema® HB26 Composite in Compression,
Materiale Plastice, vol. 53, no. 2, pp. 670-674, 2020.
<https://doi.org/10.37358/MP.20.2.5357>
Indexat Web of Science, WOS: 000579451200012
8. **BUCUR, F.**, TRANĂ, E., ROTARIU, A.,
Numerical and experimental study on the locally blast loaded polyurea coated steel plates,
Materiale Plastice, vol. 56, no. 3, pp. 492-499, 2019.
<https://doi.org/10.37358/MP.19.3.5216>
Indexat Web of Science, WOS: 000487764000005
9. GAVRUȘ, A., **BUCUR, F.**, ROTARIU, A., CĂNĂNĂU, S.,
Mechanical behavior analysis of metallic materials using a Finite Element modeling of the SHPB test, a numerical calibration of the bar's elastic strains and an inverse analysis method,
International Journal of Material Forming, vol. 8, no. 4, pp. 567-579, 2015.
<https://doi.org/10.1007/s12289-014-1180-0>
Indexat Web of Science, WOS:000360829700007
10. **BUCUR, F.**, TRANĂ, E., ROTARIU, A., GAVRUȘ, A., BARBU, C., GUINES, D.,
Experimental and numerical analysis concerning the behaviour of OL50 steel specimens coated with polyurea layer under dynamic conditions,
EPJ Web of Conferences, EDP Sciences, vol. 94: 04044,
11th International Conference on the Mechanical and Physical Behaviour of Materials under Dynamic Loading, DYMAT 2015.
<https://doi.org/10.1051/epjconf/20159404044>
Indexat Web of Science, WOS:000372587700156

2. Teza de doctorat

1. „*Contribuții la îmbunătățirea factorului de protecție a blindajelor pentru autovehicule militare*”, Școala Doctorală de Sisteme Mecanice și Aerospațiale pentru Apărare și Securitate, Inginerie Civilă și Industrială, Academia Tehnică Militară, 2015.

3. Brevete de invenție și alte titluri de proprietate industrială

4. Cărți și capitole în cărți publicate în ultimii 10 ani

1. **Florina BUCUR**, Cristian-Emil MOLDOVEANU, Adrian-Nicolae ROTARIU, *Modelarea și simularea fenomenelor aerodinamice cu aplicații în domeniul sistemelor de armament*, Editura Academiei Tehnice Militare „Ferdinand I”, ISBN 978-973-640-324-8, 140 pg., 2020.
2. Cristian-Emil MOLDOVEANU, **Florina BUCUR**, Pamfil ȘOMOIAG, *Aerodinamica proiectilelor, bombelor și rachetelor*, Editura Academiei Tehnice Militare „Ferdinand I”, ISBN 978-973-640-325-5, 180 pg., 2020.
3. Amado ȘTEFAN, **Florina BUCUR**, Andrei INDREȘ, *Rezistența Materialelor. Îndrumar pentru efectuarea lucrărilor de laborator în domeniul elastic*, Editura Academiei Tehnice Militare „Ferdinand I”, ISBN 978-973-640-314-9, 148 pg., 2020.
4. Pamfil ȘOMOIAG, Cristian-Emil MOLDOVEANU, **Florina BUCUR**, Andrei MANDACHE, *Calculul și construcția armamentului de artilerie. Îndrumar de laborator pentru proiectarea legăturilor elastice*, Editura Academiei Tehnice Militare „Ferdinand I”, ISBN 978-973-640-318-7, 84 pg., 2020.
5. **Florina BUCUR**, *Testarea și evaluarea la scară redusă a structurilor supuse încărcărilor prin explozie*, Editura Academiei Tehnice Militare, ISBN 978-973-640-242-5, 150 pg., 2015.

5. Articole publicate în reviste din fluxul științific internațional principal

A. Articole publicate în reviste internaționale cotate ISI

- 1 articol publicat în revista cotate WOS, de rang JCR - Q2, Materials:

1. CHIRIAC, O., **BUCUR, F.**, ROTARIU, A.-N., TRANĂ, E., *The Application of Mott's Distribution in the Fragmentation of Steel Coaxial Cylinders*, Materials, vol. 16, no. 17: 5783, 2023.
Indexat Web of Science, WOS: 001062513900001

- 1 articol publicat în revista cotate WOS, de rang JCR - Q1, Polymers:

1. TOADER, G., DIACON, A., RUSEN, E., RIZEA, F., TEODORESCU, M., STĂNESCU, P.O., DAMIAN, C., ROTARIU, A., TRANĂ, E., **BUCUR, F.**, GINGHINĂ, R., *A Facile Synthesis Route of Hybrid Polyurea-Polyurethane- MWCNTs Nanocomposite Coatings for Ballistic Protection and Experimental Testing in Dynamic Regime*, Polymers, vol. 13, no. 10: 1618, 2021.
Indexat Web of Science, WOS: 000655163400001

- 1 articol publicat în revista cotate WOS, International Journal of Material Forming:

1. GAVRUȘ, A., **BUCUR, F.**, ROTARIU, A., CĂNĂNĂU, S., *Mechanical behavior analysis of metallic materials using a Finite Element modeling of the SHPB test, a numerical calibration of the bar's elastic strains and an inverse analysis method*, International Journal of Material Forming, vol. 8, no. 4, pp. 567-579, 2014.
Indexat Web of Science, WOS: 000360829700007

- 6 articole publicate în revista cotate WOS, *Materiale Plastice*:

1. **BUCUR, F.**, MATAACHE, L.-C., *Assessment of Multilayered Plates with Hyperelastic Coatings Subjected to Dynamic Loadings by Impact at Low Velocities*, *Materiale Plastice*, vol. 61, no. 1, pp. 170-184, 2024.
Indexat Web of Science, WOS: 001198444200010
2. ROTARIU, A., TRANĂ, E., MATAACHE, L., CIRMACI-MATEI, M.-V., SANDU, S., MOLDOVEANU, C.-E., **BUCUR, F.***, *Experimental study on the dynamic response of polyurethane/fly ash ceramic foam*, *Materiale Plastice*, vol. 58, no 1, pp. 106-112, 2021.
Indexat Web of Science, WOS: 000637398100010
3. **BUCUR, F.**, ROTARIU, A., MATAACHE, L., BACIU, F., JIGA, G., TRANĂ, E., *Experimental and Numerical Study on the Behavior of Dyneema® HB26 Composite in Compression*, *Materiale Plastice*, vol. 53, no. 2, pp. 670-674, 2020.
Indexat Web of Science, WOS: 000579451200012
4. TRANĂ, E., **BUCUR, F.**, ROTARIU, A., *On the fragmentation of explosively-driven plastic/steel layered cylinders*, *Materiale Plastice*, vol. 55, no. 4, pp. 521-523, 2018.
Indexat Web of Science, WOS: 000454987400013
5. **BUCUR, F.**, TRANĂ, E., ROTARIU, A., *Numerical and experimental study on the locally blast loaded polyurea coated steel plates*, *Materiale Plastice*, vol. 56, no. 3, pp. 492-499, 2019.
Indexat Web of Science, WOS: 000487764000005
6. ROTARIU, A., **BUCUR, F.***, TOADER, G., LUPOAE, M., SAVA, A., ȘOMOIAG, P., CIRMACI-MATEI, M.V., *Experimental study on polyurea coating effects on deformation of metallic plates subjected to air blast loads*, *Materiale Plastice*, vol. 53, no. 4, pp. 670-674, 2016.
Indexat Web of Science WOS: 000395047100020

- 1 articol publicat în revista cotate WOS, *Proceedings of the Romanian Academy*:

1. TRANĂ, E., ROTARIU, A.N., ROTARIU, T., PULPEA, B., MOLDOVEANU, C.-E., **BUCUR, F.**, MATAACHE, L.C., GOZIN, M., *Experimental study on aluminum foils use in blast enhancement application*, *Proceedings of the Romanian Academy, Series A*, vol. 20, no. 3, pp. 275-283, 2019.
Indexat Web of Science, WOS: 000485880200008

- 3 articole publicate în revista cotate WOS, *UPB Scientific Bulletin, Series B: Chemistry and Materials Science*:

1. **BUCUR, F.**, MATAACHE, L.-C., LUPOAE, M., *A numerical study on explosively formed projectiles in low density environments for typical metallic liners materials*, *UPB Scientific Bulletin, Series B: Chemistry and Materials Science*, vol. 86, no. 3, pp. 213-226, 2024.
Indexat Web of Science, WOS: 001301114000017

2. IFTIMIE, B., CASAPU, A.-C., LUPOAE, M., **BUCUR, F.**, TRANĂ, E., *Experimental tests related to the multi-layered ballistic panel behaviour under blast and fragments impact*, UPB Scientific Bulletin, Series B: Chemistry and Materials Science, vol. 86, no. 1, pp. 273-289, 2024.
Indexat Web of Science, WOS: 001196525500006
3. ROTARIU, A.N., MATACHE, L., **BUCUR, F.**, CIRMACHI-MATEI, M.V., MĂRMUREANU, M., TRANĂ, E., *Implementation of a Gumbel distribution function in interior ballistic calculations for deterred propellants*, UPB Scientific Bulletin, Series B: Chemistry and Materials Science, vol. 82, no. 1, pp. 167-178, 2020.
Indexat Web of Science, WOS: 000550837300014

B. Articole publicate în reviste indexate Scopus și volume indexate ISI Proceedings

1. VLĂDESCU, B., ȘTEFAN, A., VEDINAȘ, I., **BUCUR, F.**, *Experimental and numerical determination of the hydrodynamic characteristics for a small-scale model of a submersed vehicle*, UPB Scientific Bulletin, Series D: Mechanical Engineering, vol. 86, no. 3, pp. 77-86, 2024.
Indexat SCOPUS
<https://www.scopus.com/pages/publications/85210234829>
2. CHIRIAC, O., ROTARIU, A.-N., **BUCUR, F.**, *The application of Mott's distribution in the fragmentation of steel coaxial cylinders*, Proceedings - 33rd International Symposium on Ballistics, BALLISTICS 2023, vol. 1: 194571, pp. 711-716, 2013.
Indexat SCOPUS
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85179000043&origin=resultslist>
3. **BUCUR, F.**, ROTARIU, A., JIGA, G., BACIU, F., TRANĂ, E., *On the experimental testing procedures for ultra-high molecular weight polyethylene (UHMWPE) behaviour evaluation in static and dynamic regime*, Scientific Bulletin of Naval Academy, vol. 23, no. 2, pp. 53-58, 2020.
Indexat SCOPUS
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85100707111&origin=resultslist>
4. **BUCUR, F.**, ROTARIU, A., TRANĂ, E., ȘTEFAN, A., *Experimental and numerical study on the mitigation capability of some special design structures*, International Journal of Modern Manufacturing Technologies, vol. XII, no. 1, pp. 7-15, 2020.
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85090720405&origin=resultslist>
Indexat SCOPUS
5. ȘTEFAN, A., NEGRU, A., **BUCUR, F.**, *On the analytical, numerical and experimental models for determining the mode shapes of transversal vibrations of a cantilever beam*, UPB Scientific Bulletin, Series D: Mechanical Engineering, vol. 82, no. 4, pp. 169-178, 2020.
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85097110024&origin=resultslist>
Indexat SCOPUS

6. ROTARIU, A.N., **BUCUR, F.**, CIRMACHI-MATEI, M.V., MATAACHE, L.C., TRANĂ, E., *Development of the analytic relations for the propellant grain geometrical characteristics required for a maximum pressure plateau feature*, Journal of Physics: Conference Series, vol. 1507, no. 2: 022025, 2020.
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85088503776&origin=resultslist>
Indexat SCOPUS
7. MATAACHE, L., PUICĂ, C., ROTARIU, A., TRANĂ, E., **BUCUR, F.**, *Numerical simulation of military ground vehicle's response to mine-blast load*, UPB Scientific Bulletin, Series D: Mechanical Engineering, vol. 80, no. 4, pp. 153-162, 2018.
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85059291865&origin=resultslist>
Indexat SCOPUS
8. **BUCUR, F.**, TRANĂ, E., ROTARIU, A., GAVRUS, A., BARBU, C., GUINES, D., *Experimental and numerical analysis concerning the behaviour of OL50 steel grade specimens coated with polyurea layer under dynamics loadings*, EPJ Web of Conferences, vol. 94: 04044, 2015.
Indexat Web of Science, WOS: 000372587700156
9. GAVRUȘ, A., **BUCUR, F.**, ROTARIU, A., CĂNĂNĂU, S., *Analysis of metallic materials behavior during severe loadings using a FE modeling of the SHPB test based on a numerical calibration of elastic strains with respect to the raw measurements and on the inverse analysis principle*, Trans Tech Publication (TTP), Periodical Journal ISI Proceedings: Key Engineering Materials, vol. 554-557, pp. 1133-1146, 2013.
Indexat Web of Science, WOS: 000322092100128

C. Articole publicate în reviste naționale indexate în baze de date internaționale sau recunoscute CNCSIS

- 5 articole publicate în revista Revista Academiei Tehnice Militare, indexată E B S C O, Ulrich's Periodicals Directory și Google Scholar:

1. GRIGORE, L., ȘTEFAN, A., **BUCUR, F.**, VLĂDESCU, B., MOLDER, C., GORGOTEANU, D., *Considerations of Collision Avoidance by a Maritime Robot*, Journal of Military Technology, vol. 6, no. 1, pp. 5-8, ISSN-L: 2601-6613, Jun. 2023.
2. **BUCUR, F.**, BARBU, C., ȚIGĂNESCU, T., *A research study regarding the determination and rating of the protection factor for tactical field autovehicles*, MTA Review, vol. XXV, no. 3, pp. 217-224, ISSN 1843-3391, Sept. 2015.
3. **BUCUR, F.**, ROTARIU, A., TRANĂ, E., RENCHEZ, B., *Numerical study of small-scale structures response on blast loadings*, MTA Review, vol. XXV, no. 3, pp. 321-330, ISSN 1843-3391, Sept. 2015.
4. TRANĂ, E., ROTARIU, A., **BUCUR, F.**, *Numerical simulation study on the ring fragmentation*, MTA Review, vol. XXV, no. 2, pp. 179-189, ISSN 1843-3391, Iun. 2015.
5. **BUCUR, F.**, BARBU, C., NĂSTĂSESCU, V., ROTARIU, A., TRANĂ, E., *Numerical analysis concerning the behavior of metallic plates subjected to blast load*, MTA Review, vol. XXIV, no. 4, pp. 159-176, ISSN 1843-3391, Dec. 2014.

6. Publicații apărute în volumele ale principalelor conferințe internaționale de specialitate

1. ENACHE, A., ROTARIU, A.-N., MATAACHE, L.-C., DÎRLOMAN, F.-M., BUCUR, F., DAN, A.-I., CHIRIAC, O., *Manufacturing and testing of a small size explosive charge used to propell steel balls arranged in planar double layers*
International Scientific Conference “Defense Technologies” DefTech 2025,
Shumen, Bulgaria, 24-25 September, 2025.
2. HURMUZACHE, A., BUCUR, F.*, PUICĂ C., ROTARIU A., *Numerical Study on the Performance of a Ceramic/Kevlar 29 Fiber Ballistic Package Against Small-Caliber Kinetic Threats*,
The 12th International Conference on Structural Analysis of Advanced Materials (ICSAAM 2025),
Brașov, Romania, September 15-18, 2025.
3. SPOIALĂ, A., ROTARIU, A.N., MATAACHE, L.C., TRANĂ, E., BUCUR, F., *Numerically study for assesement of ballistic efficiency of high hardnes perforated plates with unconventional holes*,
21st International Conference on EXPERIMENTAL MECHANICS,
Italy – Bologna, 6-11th, July 2025.
4. BUCUR, F., HALLER, L.-O., DIMA, S.-E., ROTARIU, A.-N., CÎRMACI-MATEI, M.-V., MIRCIOAGĂ, R., *Experimental assesment of ballistic protection configurations used to ensure the operational safety of outdoor shooting ranges*,
Provocări și Strategii în Ordinea și Siguranța Publică – Ediția a X-a, Academia De Poliție „Alexandru Ioan Cuza”,
București, România, 12-13 December 2024.
5. BUCUR, F., CÎRMACI-MATEI, M.-V., ROTARIU, A.-N., MATAACHE, L.-C., HALLER, L., DIMA, S.-E., MIRCIOAGĂ, R., *Experimental and numerical study of high velocity impacts on ballistic protection configurations*,
International Scientific Conference “Defense Technologies” DefTech 2024,
Shumen, Bulgaria, 20-22 September, 2024.
6. ROTARIU, A., BUCUR, F., DÎRLOMAN, F., MALCIU A., SPOIALĂ A., *Using of the pre-notched composite plates in the delamination tests at low impact velocity*,
Joint event of the International Conference on the Dynamic Behaviour of Composites – DyCOMP and European Conference on Crashworthiness of Composite Structures – ECCCS,
Enna, Sicily, Italy, 3-5 September, 2024.
7. ROTARIU, A., MATAACHE, L., BUCUR, F., TRANĂ, E., DÎRLOMAN, F., *The use of the necking profile on the determination of strains in a round specimen*,
3rd International Conference on Nonlinear Solid Mechanics (ICoNSoM 2024),
Cagliari, Sardinia, Italy, June 11-14, 2024.
8. MATAACHE, L.C., ROTARIU, A.N., BUCUR, F., TRANĂ, E., *The dynamic response to low-velocity impact of thin aluminum plates coated with polyurea*,
3rd International Conference on Nonlinear Solid Mechanics (ICoNSoM 2024),
Cagliari, Sardinia, Italy, June 11-14, 2024.
9. CHIRIAC, O., ROTARIU, A.-N., BUCUR, F., TRANĂ, E., *The application of Mott’s distribution in the fragmentation of steel coaxial cylinders*,
33rd International Symposium on Ballistics, BALLISTICS 2023,
Bruges, Belgium, 16-20 October, 2023.

10. BURDUCEA, I., BUCUR, F.*, PUICĂ, C., ROTARIU, A., *Numerical study on ballistic impact performance of bulletproof vest inserts*,
International Scientific Conference “Defense Technologies” DefTech 2023,
Shumen, Bulgaria, 27-29 September, 2023.
11. DUMITRU, I.-M., BUCUR, F.*, ȘTEFAN, A., *On the analysis method for pressure tubes failure produced by environmental conditions*,
4th International Conference on Material and Structural Mechanics,
Marrakesh, Maroc, 24-26 May, 2023.
12. ROTARIU, A.-N., MATAACHE, L.-C., BUCUR, F., DÎRLOMAN, F., *The influence of the elastic modulus on the simulation results of the polyurethane foam samples dynamic crush*,
4th International Conference on Material and Structural Mechanics,
Marrakesh, Maroc, 24-26 May, 2023.
13. MATAACHE, L.-C., ROTARIU, A.-N., BUCUR, F., TRANĂ, E., PULPEA, B., BORȘ, R., *Thermal transfer analysis in classical weapon systems*,
4th International Conference on Material and Structural Mechanics,
Marrakesh, Maroc, 24-26 May, 2023.
14. VLĂDESCU, B., ȘTEFAN, A., BUCUR, F., *Aspecte legate de dinamica vehiculelor imersate tractate cu cablu*,
Provocări și Strategii în Ordinea și Siguranța Publică – Ediția a IX-a, Academia De Poliție „Alexandru Ioan Cuza”,
Bucharest, Romania, May 24-25, 2023.
15. ROTARIU, A.-N., CHIRIAC, O., MATAACHE, L.-C., BUCUR, F., *2D numerical simulation of two metallic concentric tubes explosively-driven*,
25th Seminar New trends in research of energetic materials,
Pardubice, Czech Republic, 19-21 April, 2023.
16. BUCUR, F., SPOIALĂ, A., ȘOMOIAG, P., *Review and performance analysis of the novel materials used in ballistic protection*,
9th International Conference on Materials Science and Technologies – RoMat 2022
Bucharest, Romania, November 24-25, 2022.
17. GRIGORE, L.-Ș., ȘTEFAN, A., BUCUR, F., VLĂDESCU, B., *Collision avoidance considerations by a maritime robot*,
9th International Conference on Materials Science and Technologies – RoMat 2022
Bucharest, Romania, November 24-25, 2022.
18. ROTARIU, A.-N., MATAACHE, L.-C., BUCUR, F., PUICĂ, C., MALCIU, A., PULPEA, B., PREDESCU, I., *5.56 mm small-caliber bullet interaction with multilayered targets*,
9th International Conference on Materials Science and Technologies – RoMat 2022
Bucharest, Romania, November 24-25, 2022.
19. SAVASTRE, A., SAVA, A.-C., SURDU, G., MOLDOVEANU, C.-E., BUCUR, F., *Experimental evaluation on the performances of shock wave absorption modules based on polyurethane foam composites*,
9th International Conference on Materials Science and Technologies – RoMat 2022
Bucharest, Romania, November 24-25, 2022.
20. ROTARIU, A.-N., CIRMACHI-MATEI, M.-V., BUCUR, F., MATAACHE, L.-C., PULPEA, B., DÎRLOMAN, F., MALCIU, A., SAVA, A., *The conception of a non-standardized test for assessing the efficiency of the inner layer of the ballistic helmets*,
International Scientific Conference “Defense Technologies” DefTech 2022,
Shumen, Bulgaria, 28-30 September, 2022.

21. ROTARIU, A.-N., MATACHE, L., BUCUR, F., PULPEA, B., DÎRLOMAN, F., TRANĂ, E., *Investigation on the delamination of pre-notched UHMWPE composite plates at the low impact velocity*,
23rd European Conference on Fracture, (ECF23)
Funchal, Madeira, Portugal, 27 June-1 July, 2022.
22. ROTARIU, A., MATACHE, L., BUCUR, F., DÎRLOMAN, F., TURTOI, P., ENESCU, C., TRANĂ, E., *Assessment of the Non-Newtonian Liquid Filled Cell Potential to Mitigate the Impact Force*,
19th International Conference on Experimental Mechanics,
Kraków, Poland, 17-21 July, 2022.
23. ROTARIU, A.-N., BUCUR, F., PUICĂ, C., MALCIU, A., *Considerations regarding the potential of add-on armour with perforated plates*,
International Scientific Conference “Defense Technologies” DefTech 2021,
Shumen, Bulgaria, 6-8 October, 2021.
24. ROTARIU, A.-N., TRANĂ, E., BUCUR, F., MATACHE, L., TURTOI, P., *Practical aspects of dynamic testing of the shock absorbing materials incorporable into individual combat equipment*,
International Scientific Conference “Defense Technologies” DefTech 2021
Shumen, Bulgaria, 6-8 October, 2021.
25. BUCUR, F., ROTARIU, A., TRANĂ, E., TOADER, G., *Assessment of the impact loads measurement methods for bilayer thin targets*,
5th International Conference on Structural Integrity and Durability, ICSID 2021,
Dubrovnik, Croatia (online), September 7-10, 2021.
26. ROTARIU, A.-N., MATACHE, L., BUCUR, F., DÎRLOMAN, F., *Adaptation of the compression shpb test for the Young’s modulus calculus*,
5th International Conference on Structural Integrity and Durability, ICSID 2021,
Dubrovnik, Croatia (online), September 7-10, 2021.
27. BUCUR, F., HADĂR, A., JIGA, G., BACIU, F., *Încercări experimentale privind comportamentul unor materiale compozite stratificate din UHMWPE/Experimental tests on the behavior of UHMWPE layered composites*,
Conferința Științifică de Toamnă a Academiei Oamenilor de Știință din România,
București, România (online), 23-27 Noiembrie, 2021.
28. ROTARIU, A.-N., MATACHE, L.-C., TRANĂ, E., BUCUR, F., CIRMACI-MATEI, M.V., MITRICĂ, D., GEANTĂ, V., *Determination of the compression strength of HEA in high strain rates tests*,
International Scientific Conference Defense Technology Forum 2020,
Shumen, Bulgaria, 7-9 October, 2020.
29. ROTARIU, A.-N., TRANĂ, E., MATACHE, L., BUCUR, F., *On determination of strain field in the necking section of a round specimen based on the measurement of the exterior necking profile*,
4th International Conference on Structural Integrity and Durability, ICSID 2020,
Dubrovnik, Croatia, September 15-18, 2020.
30. BUCUR, F., ROTARIU, A., JIGA, G., BACIU, F., TRANĂ, E., *On the experimental testing procedures for ultra-high molecular weight polyethylene (UHMWPE) behaviour evaluation in static and dynamic regime*,
The 6th International Conference SEA-CONF,
Constanța, Romania (online), May 22-23, 2020.

31. ROTARIU, A.N., BUCUR, F., CIRMACHI-MATEI, M.V., MATAACHE, L.C., TRANĂ, E., *Development of the analytic relations for the propellant grain geometrical characteristics required for a maximum pressure plateau feature*,
The 2020 Spring International Conference on Defence Technology,
Nanjing, China (online), 20-24 April, 2020.
32. ȘTEFAN A., NEGRU A., BUCUR F., *Analytical Models for Determining the Normal Modes of Transversal Vibrations of a Cantilever Beam*,
TECHNIUM International Conference,
Constanța, România (online), December 15, 2019.
33. ROTARIU, A.-N., MATAACHE, L., BUCUR, F., CIRMACHI-MATEI, M.V., MĂRMUREANU, M., TRANĂ, E., *Implementation of a Gumbel distribution function in interior ballistic calculations for deterred propellants*,
31st International Symposium on Ballistics, HICC,
Hyderabad, India, 4-8 November, 2019.
34. ROTARIU, A.-N., MATAACHE, L., BUCUR, F., *The mechanical characterization of light weight entropy alloys*,
29th International Workshop on Computational Mechanics of MATERIALS,
Dubrovnik, Croatia, September 15-18, 2019.
35. BUCUR, F., ROTARIU, A.-N., TRANĂ, E., MATAACHE, L.-C., *Experimental study regarding transferred impulse mitigation by perlite layer*,
ISER-33rd International Conference on Nanoscience, Nanotechnology & Advanced Materials (IC2NAM),
Dubai, United Arab Emirates, 5-6 June, 2016.
36. ROTARIU, A.-N., TRANĂ, E., ROTARIU, T., BUCUR, F., *On the effect of reactive granular envelopes on blast parameters*,
The 2nd Conference Greener and Safer Energetic and Ballistic Systems,
Bucharest, Romania, May 26th-27th, 2016.
37. ȚIGĂNESCU, V., TRANĂ, E., LUPOAE, M., BUCUR, F., VOICU, A., TOADER, G., *Numerical simulation of blast loaded Ti/Steel foam/Ti Sandwich Plate*,
19th International Seminar – New Trends in Research of Energetic Materials,
Pardubice, Czech Republic, April 20-22, 2016.
38. ROTARIU, A. TRANĂ, E., ROTARIU, T., BUCUR, F., MATAACHE, L., IORGA, O., BADEA, S., *The effect of an annular boric acid layer on the blast wave generated at explosive charge detonation*,
19th International Seminar – New Trends in Research of Energetic Materials,
Pardubice, Czech Republic, April 20-22, 2016.
39. BUCUR, F., BARBU, C., *Unele aspecte privind factorul de protecție al autovehiculelor cu destinație pentru apărare și securitate*,
Conferința regională: impactul transformărilor socio-economice și tehnologice la nivel național, european și mondial,
Pitești, România, 25 Iunie 2015.
40. BUCUR, F., ROTARIU, A., TRANĂ, E., MATAACHE, L., BARBU, C., *Experimental study on blast effect upon small scale structure*,
The 1st Conference Greener and Safer Energetic and Ballistic Systems,
Bucharest, Romania, May 22nd-23rd, 2015.

41. TRANĂ, E., ROTARIU, A., BUCUR, F., *Numerical simulation study on the ring*,
The 1st Conference Greener and Safer Energetic and Ballistic Systems,
Bucharest, Romania, May 22nd-23rd, 2015.
42. ROTARIU, A., BUCUR, F., TRANĂ, E., CÎRMACI-MATEI, M., MATACHE, L.,
FEM analysis of material strain rate sensitivity influence on usability of small-scale structures in blast loads analysis,
8th International Conference on Finite Differences, Finite Elements, Finite Volumes, Boundary Elements,
Rome, Italy, November 7-9, 2015.
43. ȚIGĂNESCU, V., ROTARIU, T., BUCUR, F., VOICU, A., *Advances in the area of greener munitions*,
International Scientific Conference Defence Technology Forum 2015,
Shumen, Bulgaria, October 22-23, 2015.
44. BUCUR, F., TRANĂ, E., ROTARIU, A., GAVRUS, A., BARBU, C., GUINES, D.,
Experimental and numerical analysis concerning the behaviour of OL50 steel grade specimens coated with polyurea layer under dynamics loadings,
DYMAT 2015 - 11th International Conference on the Mechanical and Physical Behaviour of Materials under Dynamic Loading,
Lugano, Switzerland, September 7-11, 2015.
45. BUCUR, F., BARBU, C., NĂSTĂSESCU, V., *Numerical Modeling and Simulation of the Air Blast and its Effects on the Structures*,
The 1st International Conference NEW CHALLENGES IN AEROSPACE SCIENCES,
București, Romania, 7-8 November, 2013.
46. BUCUR, F., *Numerical Study Regarding Behavior of Metallic Plates with Different Shapes Subjected to Blast Load*,
The 19th International Conference The Knowledge-Based Organization (KBO),
Sibiu, Romania, 13th-15th June, 2013.
47. GAVRUȘ, A., BUCUR, F., ROTARIU, A., CĂNĂNĂU, S., *Analysis of metallic materials behavior during severe loadings using a FE modeling of the SHPB test based on a numerical calibration of elastic strains with respect to the raw measurements and on the inverse analysis principle*,
The 16th ESAFORM Conference on Material Forming (ESAFORM 2013),
Aveiro, Portugal, April 22-24, 2013.

7. Alte lucrări și contribuții științifice

1. Teza de abilitare: „*Cercetări experimentale și simulări numerice privind fenomenele specifice mecanicii exploziilor și balisticii terminale*”, Școala doctorală „Ingineria Sistemelor de Apărare și Securitate”, Academia Tehnică Militară „Ferdinand I”, 2024.

* Corresponding author

15.03.2026

