

Universitatea: *Academia Tehnică Militară „Ferdinand I”*

Facultatea: Sisteme Integrate de Armament, Geniu și Mecatronică

Departament: Inginerie a Sistemelor de Armament și Mecatronică

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L I S T A

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

Contribuții privind modele de materiale utilizate în descrierea fenomenului de impact la viteze mari,
Academia Tehnică Militară, 2007, conducător de doctorat CHERECHEȘ Tudor.

B. Cărți și capitole în cărți publicate

1. **Eugen Trană**, Adrian Rotariu, Bogdan Pulpea, *Calculul și construcția munițiilor. Îndrumar de laborator*, Editura Academiei Tehnice Militare, București, 2019, ISBN 978-973-640-302-6.
2. **Eugen Trană**, *Curs de construcția și exploatarea rachetelor*, Editura Academiei Tehnice Militare, București, 2019, ISBN 978-973-640-303-3.
3. Sorinel Bălășoiu, **Eugen Trană**, *Calculul și construcția focoaselor. Îndrumar de laborator*, Editura Academiei Tehnice Militare, București, 2019, ISBN 978-973-640-304-0.
4. **Eugen TRANĂ**, Bogdan-Gheorghe PULPEA, *Muniții și focoase*, Editura Academiei Tehnice Militare, București, 2017, ISBN 978-973-640-264-7.
5. **Eugen TRANĂ**, *Efectele și calculul efectelor munițiilor de artilerie cu destinație principală*, Editura Academiei Tehnice Militare, București, 2015, ISBN 978-973-640-240-1.
6. **Eugen TRANĂ**, Ctin. ENACHE, *Focoase pentru muniții. Principii constructive și funcționale*, Editura Academiei Tehnice Militare, București, 2008, ISBN 978-973-640-144-2.
7. **TRANĂ Eugen**, *Solicitarea materialelor metalice în regim dinamic. Legi constitutive*, Editura Univers Științific, București, 2007, ISBN 978-973-8936-60-7.

C. Lucrări indexate ISI/BDI publicate în ultimii 10 ani

1. **Eugen Trana**, Laviniu Haller, Florin-Marian Dîrloman, George Dobrin, Gabriel Toader, Adrian Rotariu, Oana Brincoveanu, *Experimental and numerical evaluation of REGUPOL E43 mechanical and ballistic properties*, Scientific Reports, Vol.15, art.no. 23568, pp 1-19, 2025, ISSN 2045-2322.
2. Alexandru Cătălin CASAPU, Marin LUPOAE, **Eugen TRANĂ**, and Dumitru Costin BERECHET, *Experimental Analysis of the Omnidirectional Explosive Devices Used to Neutralize IED*, U.P.B. Sci. Bull., Series B, Vol. 87 , Iss. 2, pp 251-266, 2025, ISSN 1454-2331.
3. Bogdan Ifimie, Alexandru-Cătălin Casapu, Marin Lupoae, Florina Bucur, **Eugen Trana**, *Experimental tests related to the multi-layered ballistic panel behavior under blast and fragment impact*, U.P.B. Sci. Bull., Series B, Vol. 86, Iss. 1, pp 273-289, 2024, ISSN 1454-2331.
4. Octavian Chiriac, Florina Bucur, Adrian-Nicolae Rotariu, **Eugen Trană**, *The application of Mott's distribution in the fragmentation of steel coaxial cylinders*, Materials, vol. 16 (17), art. no. 5783, pp 1-17, 2023, ISSN 1996-1944.

5. Bogdan Iftimie, Marin Lupoae, **Eugen Trana**, *Aspects of determining impact induced shock characteristics in multilayered ballistic panel materials*, U.P.B. Sci. Bull., Series B, Vol. 85, Iss. 3, pp 155-166, 2023, ISSN 1454-2331.
6. Pulpea Bogdan Gheorghe, Nuta Cristian-Valentin, Pulpea Daniela, Rotariu Adrian, **Trana Eugen**, Toader Gabriela, Rotariu Traian, Dirloman Florin, Somoia Pamfil, Ungureanu Mihai Ionut, *Characterization of pyrotechnic composition used in tracer ammunitions*, U.P.B. Sci. Bull., Series B, Vol. 85, Iss. 2, pp 185-189, 2023, ISSN 1454-2331.
7. Constantin-Cristinel Puică, **Eugen Trană**^{a,c}, Cristina Pupăză, Petrică Turtoi, Adrian-Nicolae Rotariu, Iuliana-Florina Pană, *Experimental and Numerical Study on Perforated Plate Mitigation Capacity to Near-Field Blasts*, Materials, vol. 16 (12), art. no. 4255, pp 1-17, 2023, ISSN 1996-1944.
8. Adrian-Nicolae Rotariu, **Eugen Trană**^{a,c}, Liviu-Cristian Matache, Tiberiu Homutescu, *A HiLo interior ballistic model based on the hypothesis of gases adiabatic transformation in the high pressure chamber*, Case Studies in Thermal Engineering, vol. 45, issue 24, paper 102928, pp 1-17, 2023, ISSN 2214-157X.
9. Bogdan Gheorghe Pulpea, Daniela Pulpea^{a,c}, **Eugen Trana**^{a,c}, Traian Rotariu, Raluca Elena Ginghina, Gabriela Toader and Florin Marian Dirloman, *Design and Evaluation of Screening Smoke Compositions Based on Red Phosphorus in Open Field Conditions*, Appl. Sci., vol. 12, issue 24, art. no. 12893, 2022, ISSN 2076-3417.
10. **Eugen Trană**, Marin Lupoae, Bogdan Iftimie and Alexandru Cătălin Casapu, *Assessment of the sympathetic detonation of blast caps*, Appl. Sci., vol. 12, issue 24, art. no. 12761, 2022, ISSN 2076-3417.
11. Adrian-Nicolae Rotariu, **Eugen Trana**^{a,c} and Liviu Matache, *Young's Modulus Calculus Using Split Hopkinson Bar Tests on Long and Thin Material Samples*, Materials, vol. 15(9), art. no. 3058, pp 1-14, 2022, ISSN 1996-1944.
12. G.Toader, A. Diaconu, E. Rusen, F. Rizea, M. Teodorescu, P. Stanescu, C. Damian, A. Rotariu, **E. Trana**, F. Bucur, R. Ginghina, *A facile synthesis route of hybrid polyurea-polyurethane-MWCNTs nanocomposite coatings for ballistic protection and experimental testing in dynamic regime*, Polymers, vol. 13(10), art. no. 1618, pp 1-16, 2021, ISSN 2073-4360.
13. Adrian Rotariu, **Eugen Trană**, Liviu Matache, Marius-Valeriu Cirmaci-Matei, Simona Sandu, Cristian-Emil Moldoveanu, Florina Bucur, *Experimental study on the dynamic response of polyurethane/fly ash ceramic foam*, Materiale Plastice, vol.58 (1), pp 106-112, 2021, ISSN 2668-8220.
14. Florina Bucur, Adrian Rotariu, Liviu Matache, Florin Baci, Gabriel Jiga, **Eugen Trană**^{a,c}, *Experimental and Numerical Study on the Behavior of HB26 Dyneema Composite in Compression*, Materiale Plastice, vol.57 (2), pp. 113-122, 2020, ISSN 2668-8220.
15. Rotariu, A.-N., Matache, L., Bucur, F., Cirmaci-Matei, M.V., Mărmureanu, M., **Trană, E.**^{a,c}, *Implementation of a Gumbel distribution function in interior ballistic calculations for deterred propellants*, UPB Scientific Bulletin, Series B: Chemistry and Materials Science, Volume 82, Issue 1, pp 167-178, 2020, ISSN 1454-2331.
16. F. Bucur, A.N. Rotariu, **E. Trană**, *Numerical and Experimental Study on the Locally Blast Loaded Polyurea Coated Steel Plates*, Materiale Plastice, vol.56 (3), pp 492-499, 2019, ISSN 2668-8220.
17. **Eugen TRANĂ**, Adrian N. ROTARIU, Traian ROTARIU, Bogdan Gh. PULPEA, Cristian E. MOLDOVEANU, Florina BUCUR, Liviu C. MATACHE, Michael GOZIN, *Experimental study on aluminum foils use in blast enhancement application*, Proceedings of the Romanian Academy, Series A, vol.20, no.3, pp.275-282, 2019, ISSN 1454-9069.
18. **E. Trană**, F. Bucur, A.N. Rotariu, *On the fragmentation of explosively-driven plastic/steel layered cylinders*, Materiale Plastice, vol.55 (4), pp 521-523, 2018, ISSN 2668-8220.
19. G. B. Pulpea, I. Vedinaș, T. Zecheru, **E. Trană**, R. Ștefănoiu, R.M. Lungu, T. Rotariu, *Thermal systems capabilities using infrared obscurants*, Journal of optoelectronics and advanced materials,

vol.19, Issue 1-2, pp 16-26, 2017, ISSN 1454-4164.

20. Constantin Enache, **Eugen Trană**, Traian Rotariu, Adrian Rotariu, Viorel Tudor Țigănescu, Teodora Zecheru, *Numerical simulation and experimental tests on explosively-induced water jets phenomena*, Propellants, Explosives, Pyrotechnics, , vol.41(6), pp 1020-1028, 2016, ISSN 0721-3115 (Online ISSN: 1521-4087).
21. Traian Rotariu, Constantin Enache, Doru-Adrian Goga, Gabriela Toader, Izabela-Cristina Stancu, Andrada Serafim, Sorin Eșanu, **Eugen Trană**, *Theoretical and experimental studies on new plastic pyrotechnic compositions*, Materiale plastice, vol.53 (2), pp 240-246, 2016, ISSN 2668-8220.
22. Waldemar A. Trzcinski, Qi-Long Yan, Stanislaw Cudzilo, **Eugen Trană**, Liviu Matache, Traian Rotariu, Robert Matyas, Svatopluk Zeman, Michael Gozin, *Thermobaric effects formed by aluminium foils enveloping cylindrical charges*, Combustion and Flame, vol.166, pp. 148-157, 2016, ISSN 0010-2180.
23. Rotariu Adrian, **Trană Eugen**, Dima Cornel, Enache Constantin, Timplaru Florin, Matache Liviu, *Uninstrumented measurement method for granular porous media blast mitigation assessment*, Experimental Techniques, vol.40, issue 3, pp. 993-1003, 2016, ISSN 0732-8818 (Online ISSN: 1747-1567).

D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)

- Reviste

1. Alexandru Cătălin CASAPU, Dumitru Costin BERECHET, **Eugen TRANĂ**, *A Review on Shockwave–Material Interactions: Attenuation Mechanisms and Structural Response*, Journal of Military Technology, vol.8, issue 1, pp 13-23, 2025, ISSN 2601-6613.
2. Alexandru Cătălin CASAPU, **Eugen TRANĂ**, Dumitru Costin BERECHET, and Marin LUPOAE, *Preliminary Design of an Experimental Setup for Measuring Shock Wave Attenuation of Granular Material Filters Using a Shock Tube*, Journal of Military Technology, vol.8, issue 1, pp 23-31, 2025, ISSN 2601-6613.
3. Constantin-Cristinel PUICĂ, **Eugen TRANĂ**, Adrian ROTARIU, Adrian MALCIU, and Iuliana-Florina PANĂ, *Comparative Analysis between Experimental and Numerical Results Regarding Perforated Plate Mitigation Capacity to Near-Field Blasts*, Journal of Military Technology, vol.6, issue 2, pp 33-40, 2023, ISSN 2601-6613.
4. Bucur F., Rotariu A., Jiga G., Baciuc 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(2), pp. 53–58, 2020, ISSN 1454-864X.
5. Florina Bucur, Adrian Rotariu, **Eugen Trană^{a,c}**, Amado Ștefan, *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, ISSN 2067–3604.

- Selecție cu maximum 20 lucrări în volume de conferințe

1. **E. Trana**, L. Haller, F.-M. Dîrloman, G. Dobrin, G. Toader, A. Rotariu, O. Brincoveanu, *Numerical and experimental studies on the 9 x 19 mm ball ricochet risk impacting Regupol® E43 sheet*, 34th International Symposium on Ballistics, 19-23 May 2025, Jacksonville, USA.
2. F. Bucur, A. Rotariu, **E. Trană**, G. Toader, *Assessment of the impact load measurement methods for bilayer thin targets*, 5th International Conference on Structural Integrity and Durability - ICSID 2021, 6-10 September 2021, Dubrovnik, Croatia.
3. Daniela Pulpea, Gabriela Toader, Traian Rotariu, Bogdan Pulpea, Andreea Moldovan, **Eugen Trană**, *A review on water decontamination methods and future research trends*, Proceedings of The 7th International Scientific Conference SeaConf 2021, on-line Edition, pp. 115-122, Romania, May 2021.

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4. A.N. Rotariu, F. Bucur, M.V. Cirmaci-Matei, L.C. Matache and E. **Trana**^{a.c.}, *Development of the analytic relations for the propellant grain geometrical characteristics required for a maximum pressure plateau feature*, IOP Conference Series Journal of Physics 1507:022025, 2020, doi:10.1088/1742-6596/1507/2/022025.
5. Rotariu Adrian- Nicolae, Matache Liviu, Bucur Florina, Marius Cirmaci, Marmureanu Marius, **Trana Eugen**, *Implementation of a gumbel distribution function in interior ballistic calculations for deterred propellants*, Proceedings of the 31st International Symposium on Ballistics, Hyderabad, India, 2019.
6. Liviu-Cristian Matache, P. Lixandru, T. Cherecheș, A. Mazuru, D. Cherecheș, V. Geantă, I. Voiculescu, **E. Trană**, A.N. Rotariu, *Determination of material constants for high strain rate constitutive model of high entropy alloys*, IOP Conference Series Materials Science and Engineering 591:012057, 2019, DOI: 10.1088/1757-899X/591/1/012057.
7. Liviu-Cristian Matache, T. Cherecheș, P. Lixandru, A. Mazuru, D. Mitrică, P. Șomoiaș, **E. Trană**, A.N. Rotariu, *Determination of a methodology for formulating constituent models of high entropy alloys*, IOP Conference Series Materials Science and Engineering 591:012058, 2019, DOI: 10.1088/1757-899X/591/1/012058.
8. Ovidiu Iorga, Teodora Zecheru, Tanguy Lamache, Andreea Voicu, Liviu-Cristian Matache, **Eugen Trana**, Cristiana Epure, Laurentiu Anghel, Traian Rotariu, *Simulations of the parameters influencing the underwater cutting systems availability and performance*, New trends in research of energetic materials, Pardubice, Czech Republic, 2018.
9. Laurențiu Anghel, Teodora Zecheru, Liviu-Cristian Matache, Gabriel Epure, Gabriel Iosif, **Eugen Trană**, Traian Rotariu, Edina Rusen, *Flexible liner shaped charges for underwater cutting*, New trends in research of energetic materials, Pardubice, Czech Republic, 2017.
10. Tudor V. Țigănescu, **Eugen Trană**, Adrian Rotariu, Marin Lupoae, Ovidiu G. Iorga, Andreea E. Voicu, *Experimental testing setup for study of Ti/steel foam/Ti sandwich plate behavior*, New trends in research of energetic materials, Pardubice, Czech Republic, 2017.
11. Adrian Rotariu, **Eugen TRANĂ**, Traian ROTARIU, Florina BUCUR, *On the effect of reactive envelopes on blast parameters*, International Conference 'Greener and Safer Energetic and Ballistic Systems', Bucharest, Romania, 2016.

6. Brevete obținute în întreaga activitate

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Data: 07.04.2026

Semnătura:

