



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **DĂNĂILĂ, Sterian**

Address(es)

Telephone(s)

E-mail

Nationality romanian

Date of birth

Gender male

Desired employment / Occupational field

Work experience

Dates 2022-present retired, Invited Professor POLITEHNICA University of Bucharest

Dates 1983-2022

Occupation or position held 2008-2022 Head of the Department of Aerospace Sciences, POLITEHNICA University of Bucharest
Professor: 2003-present, Assistant Professor: 1995-2003, lecturer 1990-1995, assistant 1983-1990.

Main activities and responsibilities Responsible for disciplines: Aerodynamics, Computational Fluid Dynamics, Methodes Numeriques en
Mecanique des Fluides, Finite Elements In Aerospace Engineering, Heat and Mass Transfer;
Scientific Research: in Fluid Dynamics, Aerodynamics, Turbulence, Tribology; Visiting Professor:
Universite de Poitiers, Franța, 1992.

Name and address of employer University Politehnica of Bucharest, Spl Independenței 313, Bucharest, sec.6.

Type of business or sector University, Professor

Dates 1981-1983

Occupation or position held Engineer

Main activities and responsibilities Technology for BAC 1-11 aircraft

Name and address of employer Întreprinderea de Avioane București, B-dul Ficusului, sect.1, București.

Type of business or sector Aviation Industry, technological design

Education and training

Dates 1991-1992.

Title of qualification awarded Post-doc stage

Principal subjects/occupational skills covered Fluid Dynamics, Hydrodynamic Lubrication

Name and type of organisation providing education and training Université de Poitiers, France

Level in national or international classification	Post-doctoral																				
Dates	1985-1989																				
Title of qualification awarded	Doctor in Fluid Dynamics and Aerodynamics																				
Principal subjects/occupational skills covered	Aerodynamics, Fluid Dynamics, Numerical methods in Fluid Dynamics																				
Name and type of organisation providing education and training	University Politehnica of Bucharest																				
Level in national or international classification	PH., D.																				
Dates	1976-1981																				
Title of qualification awarded	Engineer																				
Principal subjects/occupational skills covered	Aerodynamics, Flight Dynamics, Aeroelasticity, Mechanics, Fluid Mechanics, Mathematics, Physics, Chemistry, Aerospace technology																				
Name and type of organisation providing education and training	University Politehnica Bucharest																				
Level in national or international classification	Master of sciences																				
Personal skills and competences																					
Mother tongue(s)	Romanian																				
Other language(s)	English, French																				
Self-assessment	<table><tr><th colspan="2">Understanding</th><th colspan="2">Speaking</th><th>Writing</th></tr><tr><th>Listening</th><th>Reading</th><th>Spoken interaction</th><th>Spoken production</th><th></th></tr><tr><td>C2</td><td>C2</td><td>C2</td><td>C2</td><td>C1</td></tr><tr><td>C1</td><td>C1</td><td>C1</td><td>C1</td><td>C1</td></tr></table>	Understanding		Speaking		Writing	Listening	Reading	Spoken interaction	Spoken production		C2	C2	C2	C2	C1	C1	C1	C1	C1	C1
Understanding		Speaking		Writing																	
Listening	Reading	Spoken interaction	Spoken production																		
C2	C2	C2	C2	C1																	
C1	C1	C1	C1	C1																	
European level (*)																					
French																					
English																					
(*) Common European Framework of Reference for Languages																					
Social skills and competences	-working and communicating with students during classes - communicating skills with fellow colleagues - working in faculty research teams - working in international research environments (FP6, FP7 projects), post-doc research (France., 1991-1992),																				
Organisational skills and competences	Experience in research projects management(director in 16 national projects, scientific director in 2 international projects) experience in organizing activities related to education. Currently the am head of the Aerospace Sciences Department "Elie Carafoli", member of the Board of the Faculty of Aerospace Engineering and member of the Senate of UPB. Teacher coordinator team of students participating in international competition Air Cargo Challenge2009, FFD2011 and Air Cargo Challenge2011.																				
Technical skills and competences	Engineer in aerospace industry																				
Computer skills and competences	Specialist in numerical methods, numerical methods in fluid dynamics, programming languages (FORTRAN, C + +), the software scientific calculation (Matcad, Matlab), commercial software CFD (Fluent, CFX), Windows Office, and others (Photoshop, etc..).																				
Artistic skills and competences																					

Other skills and competences	: Research area related to Fluid Mechanics, Applied Mathematics, CFD, Modeling and control of turbulent flows. In the frame of these fields, he had contributions in the following topics: – Theoretical and numerical of potential stationary flow over various complex aerodynamic configurations. - Theoretical and numerical simulations of compressible unsteady potential flows around lifting surfaces; – Supersonic and hypersonic flows with detached shock wave; - Numerical methods in fluid dynamics; - Turbulence and turbulence models; - Turbulent combustion;
Driving licence	non
Additional information	- Post-doctoral research grant in Laboratoire de Mécanique des Solides, Université de Poitiers, 1991-1992 (LMS), Franța. -Visiting professor, Université de Poitiers, Franța, 1992. Lectures on: Turbulence et écoulements turbulents avec applications en lubrification hydrodynamique, Méthodes numériques pour l'intégration des équations de Navier-Stokes - Visiting professor, National University of Aeronautics and Astronautics, Nanjing, China, 2018, . Lectures on: Reentry Aerodynamics - "Henry Coanda" Award of Romanian Academy 1998; - "Hermann Oberth" Award of Academy of Romanian Scientists 2011; - reviewer: Scientific bulletin of UPB, Scientific Council of UPB Library and Printech publishing house, Romanian Academy; national research programs (AEROSPATIAL, SECURITY, CNCSIS, Chinese Journal of Aeronautics;
Annexes	List of papers

Data: 09.10.2025

DĂNĂILĂ Sterian

Lista de lucrari

prof. dr.ing. Sterian Dănăilă

I. Monografii, carti si manuale universitare

1. Danaila S., Berbente C., Metode numerice în dinamica fluidelor, Ed. Academiei Române, Bucharest, 2003, ISBN 937-27-0958-8, 750 pag.
2. V. N. Constantinescu, Danaila S, S. Găletușe, Dinamica fluidelor in regim turbulent, Ed. Academiei Române, Bucharest, 2008, ISBN 978-976-27-1694-6, 569 pag.
3. Dănăilă S., Modeling Fluid Flow Motion , Chapter I , in Vortex Flows and Applications, Editori: Susan-Resiga R., Bernad S., Muntean S., Eurostampa Publishing (CNCSIS cod 184), Timișoara, Romania, 2008, pp. 1-71, ISBN 978-973-687-659-2.
4. Dănăilă S., Stoia M., Numerical Methods in Fluid Dynamics, Chapter II in Vortex Flows and Applications, Editori: Susan-Resiga R., Bernad S., Muntean S., Eurostampa Publishing (CNCSIS cod 184), Timișoara, Romania, 2008, pp. 73-121, ISBN 978-973-687-659-2.
5. S. Dănăilă, M. Stoia, Introducere în modelarea turbulentei, Ed Politehnica Press, ISBN 978-606-515-764-4, 2017, 380 pag.
6. Bogoi A., Dănăilă S., D. Isvoranu, Ecuatiile generale de transoport ale dinamicii fluidelor, Ed. Monitorul Oficial, ISBN 979-973-0-34559-9, 2021, 563 pag.
7. Danaila, S., si Moraru, L., (2013), Tranzitia laminar-turbulent; note de curs, Editura Printech, ISBN 978-606-521-963-2
8. D. Isvoranu, S. Dănăilă, Aspecte termo-aerodinamice ale curgerilor supersonice/hipersonice, Ed. Printech, ISBN 978-606-23-0692-2, 2016, 275 pag.
9. Dănăilă S., V. N. Constantinescu, Mecanica fluidelor și elemente de aerodinamic. Îndrumar de laborator, Ed. Printech, București, 2004, ISBN 973-652-925-8, 117 pag.
10. Constantinescu V.N., Sârbu A, Danaila S.,Complemente de aerodinamică-regimul transonic, Litografia IPB, 1985, 175 pag.
11. Danaila S. , Concepte, online (pdf) în Platforma Informatică pentru Ingineria Fluidelor PiiF: 36 concepte/522 pag. în A.9. Turbulenta, . Online: <http://b.piif.ro/biblioteca/concepte>
12. Dănăilă S., Aplicații interactive, online (xls) în Platforma Informatică pentru Ingineria Fluidelor PiiF: 72 aplicatii de dinamica fluidelor, 2013. Online: <http://b.piif.ro/biblioteca/aplicatii-2/aplicatii-simple>, <http://b.piif.ro/biblioteca/aplicatii-2/aplicatii>

II. Articole in extenso in reviste cotate ISI si in proceedings indexate ISI Thomson Reuters

1. Lucas V., Dănăilă S., Bonneau O., Frêne J., Roughness Influence on Turbulent Flow through Annular Seals, Journal of Tribology Transactions of the ASME (Impact Factor:0.427/1994 https://www.researchgate.net/journal/0742-4787_Journal_of_Tribology), vol. 116, nr. 2, 1994, pp. 321-329, ISSN: 0742-4787, WOS:A1994NG89400025, <https://asmedigitalcollection.asme.org/tribology/article-abstract/116/2/321/419377/Roughness-Influence-on-Turbulent-Flow-Through?redirectedFrom=fulltext>
2. Danaila, C. Vadean, S. Danaila, Specified discharge velocity models for numerical simulations of laminar vortex rings, Theoretical and Computational Fluid Dynamics (Impact Factor: 1.511 https://www.researchgate.net/journal/1432-2250_Theoretical_and_Computational_Fluid_Dynamics). 01/2009; 23(5), pp. 317-332, ISSN: 0935-4964, WOS:000271673800001, DOI: 10.1007/s00162-009-0142-5, https://www.researchgate.net/publication/225959577_Specified_discharge_velocity_models_for_numerical_simulations_of_laminar_vortex_rings
3. M. L. Niculescu, S. Dănăilă, Numerical Analysis of the Unsteady Rotor-Stator Interaction in a Low Pressure Centrifugal Compressor by Using Adamczyk and Proper Orthogonal Decompositions, Numerical Analysis and Applied Mathematics, 2010. AIP Conference Proceedings, Volume 1281, pp. 59-62, ISBN:978-0-7354-0834-0,

ISSN: 0094-243X, WOS:000289661500016, DOI: 10.1063/1.3498548,

<https://aip.scitation.org/doi/10.1063/1.3498548>

4. S Dănilă, L Moraru, On the validity of the classical hydrodynamic lubrication theory applied to squeeze film dampers, IOP Conf. Series: Earth and Environmental Science 12, 2010, ISSN: 1755-1307 WOS:000325657000104, DOI: 10.1088/1755-1315/12/1/012104, <https://iopscience.iop.org/article/10.1088/1755-1315/12/1/012104>
5. Niculescu M.L., Danaila S, Comparative study of upwind schemes for transonic and supersonic internal flows, AIP Conference Proceedings 1558, 116 (2013); ISBN:978-0-7354-1185-2, ISSN: 0094-243X, WOS:000331472800027, DOI: 10.1063/1.4825434, <https://aip.scitation.org/doi/10.1063/1.4825434>
6. Ionescu, N, Dănilă, S., Constantinescu, V.N., Stoica, A., Dinu, C., Vișan, A, -Implementation of the higher education qualifications national framework in aerospace engineering, Proceedings of the 6th International Conference on Management of Technological Changes, pp. 357-360, ISBN:978-960-99486-3-0, WOS:000306940000090.
7. Berbente C., Dănilă S., Berbente S., Analytic Solutions for Axisymmetric Incompressible Flows with wall Injection and regression, Proceedigs of the Romanian Academy, Series A, 12, Nr.3, pp. 221–229, 2011. ISSN : 1454-9069,(Impact Factor:0.276/2011,https://www.researchgate.net/journal/1454-9069_Proceedings_of_the_Romanian_Academy-Series_A_Mathematics_Physics_Technical_Sciences_Information_Science WOS:000295898200009.
8. C. Levențiu, B. Renou, S. Dănilă, D. Isvoranu, Accurate measurements and analysis of the thermal structure of turbulent methane/air premixed flame, Elsevier Energy Procedia, 85, pp. 329 – 338, 2016, doi:10.1016/j.egypro.2015.12.259, WOS:000377911100042, <https://www.sciencedirect.com/science/article/pii/S1876610215029240>
9. Dragos Isvoranu, Sterian Danaila, Paul Cizmas and Constantin Leventiu., Proper Orthogonal Decomposition Applied to a Turbine Stage with In-Situ Combustion. In Ahmet Yavuz Oral, Bahsi Oral, Banu Zehra (Eds.), 3rd International Congress on Energy Efficiency and Energy Related Materials (ENEFM2015) Proceedings, pp. 11-17, Springer Proceedings in Energy. ISBN 978-3-319-45677-5 (e-book), ISBN-978-1-60876-360-3, ISSN: 2352-2534 8 pg., 2017 (Proceedings indexat BDI, Google Scholar), DOI: 10.1007/978-3-319-45677-5_2, WOS:000405208700002, https://link.springer.com/chapter/10.1007/978-3-319-45677-5_2
10. Isvoranu D , Danaila S; Bogoi A, Leventiu C , Assessment of Chemical Time Scale for a Turbine Burner, Transportation Research Procedia, 29, pp. 181-190, ISSN: 2352-1465, DOI: 10.1016/j.trpro.2018.02.016, Published: 2018, WOS:000454701600016, <https://www.sciencedirect.com/science/article/pii/S2352146518300206> cotate ISI si in proceedings indexate ISI Thomson Reuters
11. Dănilă S. , Isvoranu D., Levențiu C., Bogoi A, A Reduced Order Model based on Large Eddy Simulation of Turbulent Combustion in the Hybrid Rocket Engine, MATEC Web of Conferences, 304, 07015, 2019, https://www.matec-conferences.org/articles/mateconf/pdf/2019/53/mateconf_easn2019_07015.pdf

III. Articole in reviste si volume ale unor manifestari stiintifice indexate in alte baze de date internationale

1. Dănilă S. , Isvoranu D., Levențiu C., Bogoi A, A Reduced Order Model based on Large Eddy Simulation of Turbulent Combustion in the Hybrid Rocket Engine, MATEC Web of Conferences, 304, 07015, 2019, https://www.matec-conferences.org/articles/mateconf/pdf/2019/53/mateconf_easn2019_07015.pdf
2. Bogoi A., Danaila S., Isvoranu D., About some relevant aspects regarding WENO type schemes on the shock tube problem, INCAS Bulletin, 11 (2), pp. 57-68, 2019, (Revista indexata DOAJ, Index Copernicus™ - Journals Master List, Crossref, ProQuest, SCOPUS), DOI:10.13111/2066-8201.2019.11.2.5 ISSN 2247–4528. <http://bulletin.incas.ro>, https://www.researchgate.net/publication/333746327_About_some_relevant_aspects_regarding_WENO_type_schemes_on_the_shock_tube_problem
3. Alina BOGOI, Sterian DANAILA, Dragos ISVORANU. (2018). Assessment of three WENO type schemes for nonlinear conservative flux functions. INCAS Bulletin, 10 (1), pp. 207-218. (Revista indexata DOAJ, Index

- Copernicus™ - Journals Master List, Crossref, ProQuest, SCOPUS), ISSN 2247–4528, DOI: 10.13111/2066-8201.2018.10.1.18 ,
<http://bulletin.incas.ro>, https://www.researchgate.net/publication/323693368_Assessment_of_three_WENO_type_schemes_for_nonlinear_conservative_flux_functions
4. Dănilă S., Isvoranu D., Bogoi A., Leventiu C., Chemical Time Scales Distribution for Scram Jet Operation, 70th International Astronautical Congress (IAC), Washington D.C., United States, 21-25 October 2019, ISSN: 00741795. https://www.resurchify.com/all_ranking_details_2.php?id=26344
 5. S. Dănilă, D. Isvoranu A. Bogoi, Constantin Leventiu,. (2018). Numerical investigations on the improvement of burning conditions in the scramjet, 69th International Astronautical Congress: IAC 2018; Bremen; Germany; 1 October 2018 through 5 October 2018, Volume 2018, ISSN: 00741795 (Proceedings indexat SCOPUS) <http://www.proceedings.com/47918.html>, https://www.resurchify.com/all_ranking_details_2.php?id=26344
 6. Bunescu I., Danaila S, Pricop V., Dina A, Estimation of Wind Tunnel Corrections Using Potential Models, INCAS Buletin, vol.11, nr. 4, pp. 52-60, 2018, DOI: 10.13111/2066-8201.2019.11.1.4, ISSN 2066-8201, Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar, ProQuest) https://www.researchgate.net/publication/331531994_Estimation_of_Wind_Tunnel_Corrections_Using_Potential_Models
 7. Dina A., Danaila S., Pricop V., Bunescu I., Using genetic algorithms to optimize airfoils in incompressible regime, INCAS Buletin, vol.11, nr. 4, pp. 79-90, 2018, DOI: 10.13111/2066-8201.2019.11.1.4, ISSN 2066-8201, Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar, ProQuest) https://www.researchgate.net/publication/331532709_Using_genetic_algorithms_to_optimize_airfoils_in_incompressible_regime
 8. S. Dănilă, A. Bogoi, D. Isvoranu, Some Mandatory Benchmark Tests for Stability and Accuracy of High-Order Finite Difference Schemes, Applied Mechanics and Materials, Vol. 859, pp. 52-56, 2017 Index Copernicus, CSA, Inspec, Google Scholar, DOI:10.4028/www.scientific.net/AMM.859.52 https://www.researchgate.net/publication/311337038_Some_Mandatory_Benchmark_Tests_for_Stability_and_Accuracy_of_High-Order_Finite_Difference_Schemes
 9. C. F. Cuciumita, I. Porumbel, S. Dănilă, Gas Turbine Using In Situ Combustion, Applied Mechanics and Materials, Vol. 859, pp. 20-28, 2016, doi.org/10.4028/www.scientific.net/AMM.859.20, Index Copernicus, CSA, Inspec, Google Scholar, https://www.researchgate.net/publication/311335390_Gas_Turbine_Using_In_Situ_Combustion
 10. Danaila S., Isvoranu D., Inverse Thermal Analysis for Reentry Vehicles, 66th International Astronautical Congress, Jerusalem, Israel, 12-16 Oct., 2015, in Curran Associates, Inc.: Space the Gateway for Mankind's Future, (2016), ISBN 978-1-5108-1893-4, IAC-15-C2.7.6, Vol. 9/14, pp. 6590-6600. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84994385630&partnerID=MN8TOARS> (Conferinta indexata BDI-Scopus)
 11. Bogoi A., Isvoranu D., Danaila S., Assessment of some high-order finite difference schemes on the scalar conservation law with periodical conditions, INCAS BULLETIN, Volume 8, Issue 4, pp. 77 – 92, 2016. (Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar, ProQuest) <http://dx.doi.org/10.13111/2066-8201.2016.8.4.7> http://bulletin.incas.ro/files/bogoi_isvoranu_danaila_vol_8_iss_4.pdf
 12. Isvoranu D., Danaila S., Leventiu C., Vladulescu F., Combined POD and Field Analysis of a Turbine Stage with in Situ Reheat, Applied Mechanics & Materials, Vol. 841, pp. 266-271, 2016, (Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar). DOI: 10.4028/www.scientific.net/AMM.841.266 https://www.researchgate.net/publication/304368020_Combined_POD_and_Field_Analysis_of_a_Turbine_Stage_with_In_Situ_Reheat
 13. S. Danaila, D. Isvoranu, C. Leventiu, Preliminary Simulation of a 3D Turbine Stage with In Situ Combustion, Applied Mechanics and Materials, Vol. 772, pp. 103-107, Jul. 2015, DOI: 10.4028/www.scientific.net/AMM.772.103 , <https://www.scientific.net/AMM.841.266>

14. D. Isvoranu, S. Danaila, Preliminary Simulation of the Flow in the Root Canal Using New Irrigation Needle, Applied Mechanics and Materials, Vol. 772, pp. 621-625, Jul. 2015, DOI:10.4028/www.scientific.net/AMM.772.621.
15. S. Danaila, D. Isvoranu, C. Leventiu, POD analysis of the reaction rates in a turbine stage with in situ combustion, Review of the Air Force Academy, Vol. XIII, No. 3(30), pp. 83-88, 2015 (Index Copernicus, EBSCO), DOI: 10.19062/1842-9238.2015.13.3.14, http://www.afahc.ro/ro/revista/2015_3/DANAILA_ISVORANU_LEVENTIU_2015_3.pdf
16. Danaila S., Chira A., Mathematical and numerical modeling of inverse heat conduction problem, INCAS BULLETIN, Volume 6, Issue 4/ 2014, pp. 23 – 39 ISSN 2066 – 8201, 2014 DOI: 10.13111/2066-8201.2014.6.4.3, http://bulletin.incas.ro/files/danaila__chira__vol_6_iss_4.pdf
17. Dănilă S., Teleaga Delia, Zavalan Luiza, Finite Volume Particle Method for Incompressible Flows, Applied Mechanics and Materials, vol. 656, pp. 72-81, 2014., ISSN 1660-9336, DOI: 10.4028/www.scientific.net/AMM.656.72 (SCOPUS) <https://www.scientific.net/AMM.656.72>
18. Leventiu C., Danaila S., On Lean Turbulent Combustion Modeling, INCAS BULLETIN, Volume 6, Issue 2/ 2014, pp. 61 – 73 ISSN 2066 – 8201, DOI: 10.13111/2066-8201.2014.6.2.6 (DOAJ), http://bulletin.incas.ro/files/leventiu_danaila_vol_6_iss_2.pdf
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21. Danaila S., Chelaru, TV, Aspects regarding hybrid combustion instability control, , Proceedings of the International Astronautical Congress, IAC Volume 9, 2013, Pages 6989-7000, ISSN: 00741795, ISBN: 978-162993909-4 (SCOPUS)
22. Isvoranu D., Danaila S., Pleter O.T., Assessment of the effects of volcanic ash/dust clouds on aircraft safety, Global Journal on Advances Pure and Applied Sciences, Vol 1, 2013, pp. 626-631, ISSN 2301-2706. (Revista indexata BDI-Google Scholar), https://www.academia.edu/35486283/Assessment_of_the_effects_of_volcanic_ash_dust_clouds_on_aircraft_safety
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24. Isvoranu D., Danaila S., Non-newtonian 3D ciliary fluid flow in a semi-infinite domain, 3rd Micro and Nano Flows ConferenceThessaloniki, Greece, 22-24 August 2011, ISBN 978-1-902316-98-7. (Proceeding indexat BDI - Google Scholar) https://www.researchgate.net/publication/276339561_Non-Newtonian_3d_Ciliary_Fluid_Flow_in_a_Semi-Infinite_Domain
25. D.C. Toncu, A. Bogou, V. Stanciu and S Dănilă, Solving SO2 dispersion from combustion flue gas using plume reflection on the ground for continuous point source model, UPB Scientific Bulletin, Series D: Mechanical Engineering Volume 73, Issue 3, 2011, Pages 71-84, 2011, ISSN 1454-2358, (SCOPUS), https://www.scientificbulletin.upb.ro/rev_docs_arhiva/full66353.pdf
26. M. L. Niculescu, S. Dănilă, Unsteady Rotor-Stator Interaction in a Low Pressure Centrifugal Compressor, Proceedings of the 3rd WSEAS Int. Conference on Finite differences-Finite Elements-Finite Volumes-Boundary Elements, pp.209-214, 2010, ISSN: 1790-2769, ISBN: 978-960-474-180-9, (SCOPUS), https://www.researchgate.net/publication/262281860_Unsteady_rotor-stator_interaction_in_a_low_pressure_centrifugal_compressor

27. C. Mihailescu, T. Chelaru, S. Dănilă, C. Berbente, C. Sava, On the accuracy of numerical prediction in transonic-supersonic flow around missiles, UPB, sci. Bul., series D, vol.73, pp.185-195, 2010, ISSN: 14542358 (SCOPUS)
https://www.scientificbulletin.upb.ro/rev_docs_arhiva/full7557.pdf
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30. Berbente C., Dănilă S., Stoia M, A Semi-analytical Method for Wing Aerodynamics, Scient. Bulletin of the "Politehnica" University of Timisoara, Romania, tom 52(66), Fasc.3, pp. 26-34, ISSN 1224-6077, 2007, (Google Scholar, ResearchGate; CNCIS B+ în 2007,CNCIS B din 2008, cod 301)
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