

## SELECTED LIST OF SCIENTIFIC PUBLICATIONS

### A. MAGNETISM, CRITICAL PHENOMENA

1. Critical Behaviour of the Electrical Resistivity of Chromium Near the Neel Temperature.  
M. Crisan, D. Dadarlat  
Solid State Commun., 22, 691 ( 1977 )
2. Scaling Function for Two-Point Correlations in Disordered Systems.  
M. Crisan, D. Dadarlat  
Can. J. Phys., 56, 115 ( 1978 )
3. Dispersion Theory Approach to the Scaling Function for a Random System.  
D. Dadarlat, M. Crisan  
Phys. Stat. Sol., ( b ) 87, K151 ( 1978 )
4. Magnetic Behaviour of Diluted CrSi Alloys.  
D. Dadarlat, A. Giurgiu, I. Pop  
Solid State Commun., 34, 109 ( 1980 )
5. Effect of Nonmagnetic Impurities on the Neel Temperature of Chromium.  
D. Dadarlat, Z. Gulacsi  
Phys. Stat. Sol., ( b ) 98, 105, ( 1980 )
6. On the Phase Diagram of the Impure Exciton Ferromagnet.  
A. Anghel, D. Dadarlat, Z. Gulacsi  
Solid State Commun., 35, 983 ( 1980 )
7. The Magnetic Behaviour of Diluted CrAl Alloys.  
I. Pop, D. Dadarlat, T. Petrisor, A. Giurgiu  
J. Phys. Chem. Solids, 42, 927 ( 1981 )
8. The Magnetic Behaviour of Diluted CrGe Alloys.  
D. Dadarlat, T. Petrisor, I. Pop  
Phys. Stat. Sol., ( b ) 113, K111 ( 1982 )
9. Localization Effect in CrRh Alloys.  
D. Dadarlat, T. Petrisor, A. Giurgiu, I. Pop  
Phys. Stat. Sol., ( b ) 117, 155 ( 1983 )
10. The Magnetic Behaviour of FeMnRh Alloys.  
T. Petrisor, A. Giurgiu, I. Pop, D. Dadarlat  
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1. Electrical Resistivity of the Itinerant Electron Antiferromagnet Near the Neel Temperature.  
D. Dadarlat, M. Crisan,  
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2. Resistive Anomalies at Magnetic Critical Points. Effect of Nambu-Goldstone Modes on the Longitudinal Correlation Function.  
D. Dadarlat, A. Anghel  
Studia Univ. BB., Physica, 1, 3 ( 1979 )
3. The Effect of the ISDW on the Critical Behaviour of the Electrical Resistivity of the Itinerant Electron Antiferromagnet.  
D. Dadarlat, M. Crisan, A. Anghel  
Studia Univ. BB., Physica, XXV2, 9 ( 1980 )

### B. IR DETECTION AND EMISSION PROCESSES, NARROW-GAP SEMICONDUCTORS

1. Majority Carrier Concentration and Quasi-Fermi Level for PbSnTe DH Diode Lasers.  
D. Dadarlat, R. Candea, M. Barlea  
Phys. Stat. Sol., ( a ) 76, K61 ( 1983 )
2. Properties of PbSe Films Prepared by CAD.  
R. Candea, D. Dadarlat, R. Turcu, E. Indrea  
Phys. Stat. Sol., ( a ) 90, K91 ( 1985 )
3. The Dynamic Behaviour of the Electrical Conductivity of CAD-PbSe Films.

- R. Candea, R. Turcu, P. Margineanu, D. Dadarlat  
 .Phys. Stat. Sol., ( a ) 96, 337 ( 1986 )
4. The Influence of the Film History on Some Electrophysical Properties of VE, CAD, COD-PbSe Films.  
 R. Candea, L. Biro, D. Dadarlat,...  
 Phys. Stat. Sol., ( a ) 108, 233 ( 1988 )
5. Size Effects in Polychrystalline PbSe Films Obtained by Chemical Deposition.  
 D. Dadarlat, R. Candea, R. Turcu, L. Biro, I. Zasavitsky, M. Valeico, A. P. Sotov  
 Phys. Stat. Sol., ( a ) 108, 637 ( 1988 )
6. Amorphous PbSe Films: Growth and Properties.  
 L. Biro, ..., D. Dadarlat  
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1. Lead Chalcogenides Tunable Diode Lasers.  
 D. Dadarlat, R. Candea, P. Fitori, A. Darabont  
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2. The Behaviour of the Carrier Concentration and Quasi-Fermi Levels for PbSnTe SH and DH Diode Lasers.  
 D. Dadarlat, R. Candea, M. Barlea, M. Chirtoc  
 .Studia Univ. BB., Physica, XXIX, 21 ( 1984 )
3. PbSe Films: Growth and Properties.  
 R. Candea, D. Dadarlat,...  
 .St. Cerc. Fiz., 38, 4210 ( 1986 )
4. On the Photoconductivity of PbSe Films Obtained by CAD.  
 D. Dadarlat, R. Turcu,...  
 Studia Univ. BB., Physica, XXXII2, 74 ( 1987 )
5. On the Investigation of Free Carrier Concentration of Lead Chalcogenides Semiconductors by 1/f Noise Measurements.  
 D. Dadarlat, R. Turcu  
 Studia Univ. BB., XXXIV1, 30 ( 1989 )
6. The Detection of IR Radiation with PbSnTe, PbSnSe Ternary Compounds.  
 R. Candea, D. Dadarlat, ...  
 St. Cerc. Fiz., 42, 253 ( 1990 )

#### C. PYROELECTRIC DETECTION, PHOTOTHERMAL PHENOMENA

1. Direct Pyroelectric Detection of Optical Absorption in Non-Transparent Materials.  
 D. Dadarlat, M. Chirtoc, R. Candea, I. Bratu  
 Infrared Phys., 24, 469 ( 1984 )
2. A Simple Detection Method in Photothermal Deflection Measurements on Thin Film Semiconductors.  
 D. Dadarlat, M. Chirtoc, R. Candea  
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3. Photopyroelectric Spectroscopy of Water in the Near IR.  
 M. Chirtoc, D. Dadarlat, I. Chirtoc, D. Bicanic  
 Photoacoustic and Photothermal Phenomena, Eds. P. Hess and J. Pelzl, Springer Verlag, 1987, pp.55.
4. Reflection Mode Photopyroelectric Spectroscopy of Water in the Near IR.  
 M. Chirtoc, D. Dadarlat, I. Chirtoc, D. Bicanic  
 Spectroscopy Lett., 21, 413 ( 1988 )
5. On the Photopyroelectric Detection of the Phase Transitions. Applications to Ferroelectric Materials.  
 D. Dadarlat, M. Chirtoc, D. Bicanic  
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6. Photopyroelectric Detection of Phase Transitions in Thermally Thick Solids.  
 D. Dadarlat, M. Chirtoc, D. Bicanic  
 Photoacoustic and Photothermal Phenomena II, Eds. J. C. Murphy, ..., Springer Verlag, Berlin, Heidelberg, 1990, pp.300.

7. Photopyroelectric Detection of Magnetic Phase Transitions. Application to Ferromagnetic and Itinerant Electron Antiferromagnetic Materials.  
D. Dadarlat, M. Chirtoc, C. Neamtu, D. Bicanic  
J. Phys. Chem. Solids, 51, 1369 ( 1990 )
8. Inverse Photopyroelectric Detection Method.  
D. Dadarlat, M.Chirtoc, C. Neamtu, R. Candea, D. Bicanic  
Phys. Stat. Sol., ( a ) 121, K231 ( 1990 )
9. Optical Absorption by Small Polarons in Palladium Hydride.  
D. Lupu, M. Chirtoc, D. Dadarlat, R. Candea, I. Bratu, V. Mecea  
Phys. Stat. Sol., ( b ) 163, 519 ( 1991 )
10. Direct Determination of Thermophysical Parameters in Mayonnaise, Shortening and Edible Oil.  
D. Bicanic, M. Chirtoc, D. Dadarlat, P. van Bovenkamp, H. van Schaik  
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11. PPE Detection of 3D-2D Antiferromagnetic Phase Transition of Single Crystal La<sub>2</sub>CuO<sub>4</sub>.  
D. Dadarlat, R. Candea, A. Frandas, M. Chirtoc, D. Bicanic  
Photoacoustic and Photothermal Phenomena III, Ed. D. Bicanic, Springer Verlag, 1992, p 644
12. The Anomalous Behaviour of the PPE Signal in the Critical Region of a Phase Transition, a New Support for the General Theoretical Model.  
D. Dadarlat, M. Chirtoc, R. Candea, A. Frandas, D. Bicanic  
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13. New and Versatile Method for Thermophysical Characterization of Materials: The Inverse Photopyroelectric Technique.  
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14. Standard Versus New PPE Techniques, Reflection and Inverse Configurations.  
M. Chirtoc, D. Dadarlat, D. Bicanic  
same as 11, p 103
15. Photopyroelectric Spectroscopy of H<sub>2</sub>O-D<sub>2</sub>O Mixtures.  
D. Dadarlat, A. Frandas, I. Bratu  
Infrared Phys., 33, 575 ( 1992 )
16. Inverse Photopyroelectric Detection of Phase Transitions.  
D. Dadarlat, A. Frandas  
Appl. Phys., A57,235 ( 1993 )
17. Pyroelectric Spectroscopy of the Hydrogen Uranyl Phosphate.  
R. M. Candea, D. Lupu, M. Chirtoc, D. Dadarlat, A. Frandas  
Spectroscopy Lett., 26, 923 ( 1993 )
18. Photopyroelectric Study of Specific Heat, Thermal Conductivity, and Thermal Diffusivity of Cr<sub>2</sub>O<sub>3</sub>.  
M. Marinelli, U. Zammit, F. Mercuri, F. Scudieri, R. Pizzoferrato, D. Dadarlat  
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19. Measurement of the Heat Penetration Coefficient in Margarine and Cultured Milk Products by the Inverse Photopyroelectric Technique.  
D. Bicanic, M. Chirtoc, D. Dadarlat, I. Chirtoc, W. van Loon, G. Bot  
Int. Dairy Journal 4, 555 ( 1994 )
20. Combined Standard-Inverse PPE Configurations for Measurements of Dynamic Thermal Parameters of Saturated and Unsaturated Fatty Acids.  
D. Dadarlat, H. Visser, D. Bicanic, A. Frandas, K. van Asselt  
Journ. Phys. IVC7 Vol4, C7-483, ( 1994 )
21. Critical Behaviour of Thermal Diffusivity and Thermal Conductivity of Cr<sub>2</sub>O<sub>3</sub> at the Neel Transition.  
M. Marinelli, F. Mercuri, U. Zammit, R. Pizzoferrato, F. Scudieri, D. Dadarlat  
Phys. Rev. B49, 4356 ( 1994 )
22. Photopyroelectric Study of Specific Heat, Thermal Conductivity and Thermal Diffusivity of Cr<sub>2</sub>O<sub>3</sub> at the Neel Transition.  
M. Marinelli, F. Mercuri, U. Zammit, R. Pizzoferrato, F. Scudieri, D. Dadarlat  
Phys. Rev. B49, 9523 (1994)
23. Photopyroelectric Study of the Thermal Parameters of Antiferromagnets at the Neel Temperature.  
M. Marinelli, F. Mercuri, U. Zammit, R. Pizzoferrato, F. Scudieri, D. Dadarlat

Journ. Phys. IVC7 Vol4, C7-261 ( 1994 )

24. Photopyroelectric Method for Determination of Thermophysical Parameters and Detection of Phase Transitions in Fatty Acids and Triglycerides. Part I: Principles, Theory and Instrumentational Concepts.

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Journ. of Amer. Oil Chem. Soc., 74, 273 (1995)

25. Same as 24. Part II: The Temperature Dependence of Thermophysical Parameters.

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26. A New Photopyroelectric Scheme Suitable for Phase Transition Investigations: The Front Configuration with Semitransparent Sensor.

D. Dadarlat, A. Frandas, M. Marinelli, F. Mercuri, D. Bicanic

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27. An Improved IPPE Cell for Measurement of Thermal Effusivity; Application to Fatty Acids and Triglycerides.

D. Dadarlat, H. Visser, D. Bicanic

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28. The Photothermal Approach to Thermal Characterization of Foodstuffs and an Optothermal Accessory for Obtaining Their Infrared Spectra.

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29. Photopyroelectric Measurement of Thermal Parameters in Food Products.

D. Dadarlat, J. Gibkes, D. Bicanic, A. Pasca

J. Food Engn., 30, 155 (1996)

30. Study of Melting Processes in Fatty Acids and Oil Mixtures: A Comparison of Photopyroelectric (PPE) and Differential Scanning Calorimetry (DSC).

D. Dadarlat, D. Bicanic, J. Gibkes, W. Kloek, I. Dries, E. Gherkema

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31. Thermal Diffusivity Measurement of Selected Metals, Technical Graphites and Magnetic Materials: The Zero Crossing and the Phase Methods Versus Photopyroelectric Technique-An Intercoparison Study.

J. Gibkes, D. Dadarlat, J. P. Favier, D. Bicanic, B. Bein, E. Gherkema

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32. Photopyroelectric Study of Thermal Parameters of Food and Biological Products.

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35. Thermal Diffusivity of Hard Boiled Candy Obtained by Photothermal Beam Deflection and Standard Photopyroelectric Method.

J. P. Favier, D. Dadarlat, J. Gibkes, C. van den Berg, D. Bicanic

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36. Rayleigh-Bebard-Marangoni Instabilities During Evaporation of Aqueous Alcohol Solutions, Detected by Pyroelectric Sensors.

M. Chirtoc, I. Chirtoc, A. Frandas, D. Dadarlat, D. Bicanic

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37. Photopyroelectric Observation of Melting in Valeric, Linoleic, Linolenic and Tricosanoic Free Fatty Acids.

D. Dadarlat, D. Bicanic, J. Gibkes, V. Surducan, A. Pasca

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38. Photopyroelectric Study of Thermal Properties of Diluted and Concentrated Sugar Systems. Application to Aqueous Solutions of Maltose, Glucose and Maltodextrine, and to Honey of Varying Moisture Content

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- D. Dadarlat, A. Frandas, V. Surducan, G. Nagy, D. Bicanic, Photoacoustic and Photothermal Phenomena, F. Scudieri, M. Bertolotti (eds), Woodbury, New York, 1998, pp 655,
40. Photopyroelectric Measurement of Thermal Diffusivity in Low Density Polyethylene (LPDE) and Polyvinyl Chloride (PVC) Foils.  
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41. Combined Photothermal and Classical Methods for the Study of Early Spoilage of Edible Oils.  
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42. Assessing the Extent of Oxidation in the Thermally Stressed Safflower Oil. Part II. Two Variants of Photopyroelectric Method, Differential Scanning Calorimetry and Gas Chromatography.  
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44. An Application of the Laser Induced Photopyroelectric Effect for Measuring the Thermal Effusivity of Some (Semi)Liquid Foodstuffs  
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49. Rapid, Accurate, and Direct Determination of Total Lycopene Content in Tomato Paste  
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50. Study of Thermal Parameters Temperature Dependence of Pyroelectric Materials  
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52. Photopyroelectric Study of Thermal and Pyroelectric Parameters Temperature Dependence of Pyroelectric Materials.  
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53. Tomato Pastes and their Moisture Content as Determined via the Measurements of Thermal Effusivity by Means of Infrared Photothermal Radiometry and Inverse Photopyroelectric Technique  
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54. Photopyroelectric Measurements of Dry Matter Content in Tomato Purees  
C. Neamtu, D. Dadarlat, D. Bicanic

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55. Evidencing Molecular Associations in Binary Liquid Mixtures via Photothermal Measurements of Thermophysical Parameters.  
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56. Detection of Molecular Associations in Liquids by Photopyroelectric Measurements of Thermal Effusivity.  
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57. Photoacoustic and photopyroelectric investigations of thermal parameters in water mixed with organic liquids  
Anna Sikorska, D. Dadarlat, B.B.J.Linde, M. Streza, C. Neamtu, A. Śliwinski  
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58. On the Accurate Determination of Thermal Diffusivity of Liquids by Using the Photopyroelectric Thickness Scanning Method.  
S. Delenclos, D. Dadarlat, N. Houriez, S. Longuemart, C. Kolinsky, A.H. Sahraoui  
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59. Accurate Photopyroelectric Calorimetry Applied to Isotopic Liquid Mixtures  
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62. High Temperature Resolution Simultaneous Optical and Thermal Characterization of Liquid Crystals Nanocolloids  
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63. Highly Accurate Photopyroelectric Measurement of Thermal Diffusivity of Vegetable Oils  
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74. Combined FPPE-PTR calorimetry involving TWRC technique. Theory and mathematical simulations.  
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1. Aplicator de microunde cu arie de detector integrate pentru masurarea temperaturii

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2. Reactor cu plasma rece pentru obtinerea combustibilului biodiesel

**Cold plasma reactor for biodiesel fuel production**

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