Program & Abstracts

7th International Symposium on Radiative Transfer
RAD-13 · Pine Bay Holiday Resort, Kusadasi 2 - 8 June, 2013

Speakers instructions: To allow time for discussion, speakers’ presentations should be limited to 20 minutes.

A SUNDAY JUNE 2, 2013 15:30 - 18:00 A REGISTRATION
MONDAY JUNE 3, 2013

7:30 - 8:30 A A A A A A A A A A A A A A A A A A A A A A A A A A A A A J. Howell

POYNTING AWARD CEREMONY
9:45 A E 10:00 A A OFFICIAL PRESENTATION OF THE POYNTING AWARD

SESSION 1 A E RADIATIVE TRANSFER MODELS - I
Chair: R. Vaillon
10:00 - 10:30
Application of High Resolution NVD and TVD Differencing Schemes to the Discrete Ordinates Method Using Unstructured Grids
Â P. Coelho
10:30 - 11:00
Coffee Break
11:00 - 11:30
Solution Convergence Acceleration of Discretized Radiative Transfer Equation Using Synthetic Iteration Method
Â V. P. Budak, O. V. Shagalov
11:30 - 12:00
THE DRESOR METHOD FOR RADIATIVE HEAT TRANSFER IN SEMITRANSPARENT GRADIENT INDEX CYLINDRICAL MEDIUM
12:00 - 12:30
ANALYSIS OF ACCELERATION TECHNIQUES FOR LINEARIZED RADIATIVE TRANSFER CODES
Â D. S. Efremenko, A. Doicu, D. Loyola, T. Trautmann
12:30 - 14:30
BREAK

SESSION 2 A E RADIATIVE TRANSFER MODELS - II
Chair: P. Coelho
14:30 - 15:00
NULL COLLISION MONTE CARLO ALGORITHMS: A MESHLESS TECHNIQUE TO DEAL WITH RADIATIVE PROBLEMS IN HETEROGENEOUS MEDIA
Â M. Galtier, M. El Hafi, V. Eymet, R. Fournier, G. Terrée
15:00 - 15:30
ASYMPTOTIC ANALYSIS OF RADIATIVE TRANSFER EQUATION WITH RANDOM EXTINCTION COEFFICIENT
Â A. K. Prinja, E. D. Fichtl
15:30 - 16:00
MESHLESS METHOD FOR SOLVING MULTIDIMENSIONAL TRANSIENT RADIATIVE TRANSFER
Â C. A. Wang, H. Sadat, M. Lazard, V. Le Dez
16:00 - 16:30
Coffee Break

SESSION 3: RADIATIVE TRANSFER IN COMBUSTION SYSTEMS
Chair: H. C. Zhou
16:30 - 17:00
THERMAL RADIATION EFFECTS IN RANS SIMULATIONS OF A 2D AXISYMMETRIC TURBULENT DIFFUSION FLAME
Â F. R. Centeno, F. H. R. Franêša, C. V. Da Silva
17:00 - 17:30
EFFECTS OF WATER VAPOUR ADDITION TO THE AIR STREAM ON SOOT VOLUME FRACTION AND FLAME TEMPERATURE IN A LAMINAR COFLOW
Â EHTYLENE FLAME
Â F. Liu, J.-L. Consalvi, A. Fuentes, G. J. Smallwood
18:30 - 20:00
WELCOME COCKTAIL

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TUESDAY JUNE 4, 2013

DEDICATION LECTURE 1
Chair: P. F. Hsu 8:30 - 9:30
THERMAL THERAPY WITH METAL NANOPARTICLE ASSISTED LASER HEATING
Y. Bayazitoglu, S. Kheradmand, T. K. Tullius

SESSION 4 â€“ RADIATIVE PROPERTIES OF SOLIDS AND HETEROGENEOUS MEDIA - I
Chair: H. Berberoglu 9:30 - 10:00
PREDICTION OF THERMAL RADIATIVE PROPERTIES OF SEMICONDUCTORS FROM FIRST PRINCIPLE
Â H. Bao, X. Ruan
THERMAL PERFORMANCE OF BLACK CUPRIC OXIDE SUBMICRON-PARTICULATE COATINGS: EXPOSURE TEMPERATURE MEASUREMENT
Â H. Gonome, M. Baneshi, J. Okajima, A. Komiya, S. Maruyama

SESSION 5 - INVERSE RADIATIVE TRANSFER
Chair: A. V. Nenarokomov 11:00 - 11:30
A COMPARATIVE STUDY IN OPTICAL TOMOGRAPHY WITH REGULARIZATION TOOLS
Â O. Balima
LASER ABSORPTION TOMOGRAPHY RECONSTRUCTION THROUGH THE LEVEL SET METHOD
Â M. G. Twynstra, K. J. Daun, S. L. Waslander
SENSITIVITY ANALYSIS AND RETRIEVAL OF INCLUSION PROPERTIES IN PARTICIPATING MEDIA BASE ON THE SHORT PULSE LASER INCIDENCE
Â D. L. Wang, H. Qi, B. Zhang, X. Sun

SESSION 6 â€“ RADIATIVE PROPERTIES OF SOLIDS AND HETEROGENEOUS MEDIA - II
Chair: K. Daun 14:30 - 15:00
SPECTRAL RADIATIVE PROPERTIES OF 3DOM CERIA PARTICLES
Â V. M. Wheeler, J. Andrianalisoa, K. K. Tamma, W. Lipinski
EXPERIMENTAL STUDY OF THE EFFECTIVE BRDF OF A COPPER FOAM SHEET
Â W. J. Zhang, J. M. Zhao, L. H. Liu
SIMPLIFIED APPROACHES TO RADIATIVE TRANSFER SIMULATIONS IN LASER-INDUCED HYPERTHERMIA OF SUPERFICIAL TUMORS
Â L. A. Dombrovsky, J. H. Randrianalisoa, W. Lipinski, V. Timchenko

SESSION 7 â€“ RADIATIVE PROPERTIES OF SOLIDS AND HETEROGENEOUS MEDIA - III
Chair: W. Lipinski 16:30 - 17:00
RADIATION CHARACTERISTICS MEASUREMENTS OF ANABAENA CYLINDRICA
Â R. L. Heng, E. Lee, L. Pilon
RADIATIVE TRANSFER IN VACUUM THERMAL INSULATION OF SPACE VEHICLES
Â I. V. Gritsevich, L. A. Dombrovsky, A. V. Nenarokomov

WEDNESDAY JUNE 5, 2013

DEDICATION LECTURE 2
Chair: J. Howell 8:30 - 9:30
NANO-SCALE RADIATIVE HEAT TRANSFER TO SOLVE GLOBAL WARMING AND ENVIRONMENTAL ISSUES
Â S. Maruyama
FRIDAY JUNE 7, 2013

8:45 â€“ 10:00 Â· Â· Â· RAYMOND VISKANTA AWARD CEREMONY

SESSION 12 â€“ GAS RADIATION - II 10:00 - 10:30
EXTENSION OF THE EXACT SLW MODEL TO NON-ISOTHERMAL GASEOUS MEDIA Â· V. P. Solovjov, D. Lemonnier, B. W. Webb 10:30 â€“ 11:00 Coffee Break

SESSION 13 â€“ NANOSCALE RADIATIVE TRANSFER - III 11:00 - 12:00
ON OPTIMAL OPTICAL PROPERTIES FOR NEAR-FIELD RADIATIVE HEAT TRANSFER MAXIMIZATION BETWEEN TWO SEMI-INFINITE PLANES AT ROOM TEMPERATURE Â· A. Didari, M. P. Mengüç

12:00 - 12:30 ANALYSIS OF NEAR FIELD-EMISSION WITHIN NANO-GAPS USING FINITE DIFFERENCE TIME DOMAIN METHOD Â· A. Didari, M. P. Mengüç

12:30 - 14:30 BREAK

14:30 - 16:00 OPEN FORUM

END OF RAD-13 SYMPOSIUM

16:00 - 18:00 JQSRT SELECTION COMMITTEE MEETING

POSTER PRESENTATIONS

Thursday, June 6 14:30 â€“ 17:30

P01 RADIATIVE TRANSFER THROUGH A PMMA SAMPLE. PART 1: SPECTROSCOPIC STUDY AND OPTICAL INDICES Â· Z. Acem, J. Gâ©rardin, G. Parent, A. Collin, P. Boulet


P03 THERMAL ISSUES IN THE DESIGN OF PV DEVICES: FOCUS ON THE CASE OF NANOSCALE-GAP THERMOPHOTOVOLTAIC CELLS Â· O. Duprâ©, R. Vaillon, M. Francoeur, P. O. Chapuis, M. P. Mengüç

P04 CONTROL OF THE THERMAL RADIATIVE PROPERTIES OF SiC FOAMS Â· S. Guâ©velou, B. Rousseau, G. Domingues, J. Vicente

P05 INFLUENCE OF THE FORMING CONDITIONS ON THE RADIATIVE PROPERTIES OF SEMI-CRYSTALLINE POLYMERS Â· D. Delaunay, B. Rousseau

P06 ANALYSIS OF THERMAL RADIATION HEAT TRANSFER ON A VERY HIGH TEMPERATURE GAS-COOLED REACTOR Â· S. D. Hong, C. Yoon, C. S. Kim, M. H. Kim, Y. W. Kim

P07 EXPERIMENTAL, NUMERICAL INVESTIGATION OF COUPLED HEAT, MASS TRANSPORT IN A PARTICIPATING MEDIUM Â· O. Isik, O. Temel, S. U. Onbasioglu

P08 IDENTIFICATION OF TEMPERATURE, RADIATIVE PROPERTIES IN SEMITRANSPARENT MEDIA USING HIGH TEMPERATURE SPECTRAL DIRECTIONAL EMISSION: APPLICATION TO CARBON FELT Â· S. Le Foll, A. Delmas, F. Andrâ©, J. M. Bouilly, Y. Aspa

P09 Optimization of high temperature volumetric solar absorber made of silicon carbide ceramic foam Â· S. Mey, C. Caliot, G. Flamant

P10 ANALYTICAL RADIATIVE PROPERTIES OF DISPERSED MEDIA IN THE GEOMETRIC OPTIC LIMIT Â· J. Randrianalisoa, D. Baillis

P11 COMPUTATIONAL RADIATIVE CHARACTERIZATION OF RANDOM FIBROUS MEDIA WITH OPTICALLY LARGE FIBERS Â· J. Randrianalisoa, S. Haussener, D. Baillis, W. LipiDski

P12 A WIDE-ANGLE CERMET-BASED SOLAR SELECTIVE ABSORBER FOR HIGH TEMPERATURE APPLICATIONS Â· A. Sakurai, H. Tanikawa, M. Yamada

P13 ANALYTICAL SOLUTION OF P1 APPROXIMATION IN RECTANGULAR ENCLOSURE WITH GRAY MEDIUM Â· H. Saliholu, H. Erâ©/4rkP14THE GENERALIZED SLW METHOD Â· V. P. Solovjov, D. Lemonnier, B. W. Webb

P15 SUBGRID SCALE MODEL FOR RADIATIVE TRANSFER IN OPTICALLY THICK PARTICIPATING MEDIA Â· L. Soucasse, P. Rivâ©te, A. Soufiani

P16 VERIFICATION OF PRECISE PREDICTIVE EXPRESSION OF EMITTANCE SPECTRA FOR POWDERY COAL ASH Â· S. Tsuda, T. Okazaki, A. Gwosdz

P17 REDUCING THERMAL RADIATION HEAT TRANSFER WITH INTERFERENCES
EVALUATION OF DUAL COMBINED PARABOLIC SOLAR CONCENTRATOR IN EVACUATED TUBE
A. Ustaoglu, J. Okajima, X. R. Zhang, S. Maruyama
NEAR-FIELD RADIATIVE HEAT TRANSFER MEASUREMENTS BETWEEN PARALLEL PLATES
DETERMINATION OF THE NEAR-WALL RADIATIVE PROPERTIES OF A NUMERICALLY GENERATED PACKED BED
M. Zarrouati, F. Enguehard, J. Taine
Analytical Delta-Four-Stream Doubling-Adding Method for Radiative Transfer Parameterizations
F. Zhang, Z. Shen, J. Li, X. Zhou, L. Ma
WALL-MODELED LES WITH A NEW WALL MODEL ACCOUNTING FOR RADIATION EFFECTS
Y. Zhang, R. Vicquelin, O. Gicquel, J. Taine, Y. Huang