

# **1st Symposium on Incoherent Light Sources**

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PROVISIONAL PROGRAMME

TUESDAY 8 APRIL 1975

INCANDESCENT SOURCES

- 09.15 Introduction and Welcome
- 09.25 Invited Paper : DR B KOPELMAN (GTE Sylvania Inc, USA)
- 10.05 1 THERMOCHEMISTRY AND KINETICS OF THE TUNGSTEN BROMINE SYSTEM  
V W Goddard (Thorn Lighting Ltd, Leicester)
- 10.25 2 TRANSPORT IN THE TUNGSTEN FLUORINE SYSTEM  
G Dittmer, A Klopfer and J Schroder (Philips, Aachen, Germany)
- 10.45 MORNING COFFEE
- 11.10 3 FLUORINE/FLUORIDE RESISTANT COATINGS OF FUSED QUARTZ  
J M Rees (Thorn Lighting Ltd, Leicester), R Rothon (ICI Ltd, Runcorn,  
Cheshire)
- 11.30 4 BURNOUT MECHANISMS IN INCANDESCENT LAMPS  
W Lems, H Kinkartz, W Lechner (Philips, Aachen)
- 11.50 5 INVESTIGATION OF TRANSPORT PROCESSES IN HALOGEN LAMPS BY MEANS OF  
RADIOACTIVE TRACER METHODS  
L Bartha, T Geszti, L Kozma (Research Institute for Technical Physics  
of the Hungarian Academy of Sciences, Budapest)
- 12.10 6 ON CARBON AS A GETTER OF OXYGEN IN HALOGEN LAMPS  
T Vicsek (Research Institute for Technical Physics of the Hungarian  
Academy of Sciences, Budapest)
- 13.00 LUNCH

DIAGNOSTICS AND SPECTROSCOPY

- 14.00 7 HEAT AND MASS TRANSPORT IN GAS-FILLED INCANDESCENT LAMPS  
J Fitzgerald and E Fischer (Philips, Aachen)
- 14.20 8 PROJECTION HOLOGRAPHIC INTERFEROMETRY AS A TECHNIQUE FOR THE  
DIAGNOSTICS OF GAS-FILLED LAMPS  
N J Phillips (University of Technology, Loughborough)
- 14.40 9 GAS-PHASE SEPARATION MECHANISMS IN LINEAR TUNGSTEN-HALOGEN LAMPS  
J R Coaton (Thorn Lighting Ltd, Leicester)
- 15.00 10 SPECKLE PATTERN DIAGNOSTICS OF GASEOUS INTERIORS  
J N Butters (University of Technology, Loughborough)
- 15.20 TEA
- 15.40 11 THREE DIMENSIONAL TIME-RESOLVED MEASUREMENTS  
R F Stevens (NPL, Teddington)
- 16.00 12 TEMPERATURE AND VELOCITY FIELD BETWEEN CO-AXIAL HORIZONTAL CYLINDERS  
IN FREE CONVECTION  
A Szokefalvi-Nagy, G Tichy, I Gaal (Research Institute of the  
Hungarian Academy of Science, Budapest)
- 16.20 13 SOME PROBLEMS OF FORMING THE IMAGE OF GASEOUS (PHASE) OBJECTS  
J H Toyer, N J Phillips (University of Technology, Loughborough)

WEDNESDAY 9 APRIL

DIAGNOSTICS AND SPECTROSCOPY

- 09.00 Invited Paper : DR D D BURGESS (Physics Dept, Imperial College, London)
- 09.40 14 SPECTROSCOPIC TECHNIQUES FOR DIAGNOSTICS OF METAL HALIDE ARC LAMPS  
J F Waymouth, W M Keefe, W I Bamberg, P J Gardner, W Walter, D Work  
(GTE Sylvania Inc, USA)
- 10.00 15 EMISSION LINES IN THE SPECTRA OF HALOGEN INCANDESCENT LAMPS  
W J van den Hoet, E G Berns (Philips, Eindhoven)
- 10.20 16 SYNCHROTRON RADIATION SOURCES  
I H Munro (Daresbury Laboratory, UKAEA Warrington)
- 10.40 MORNING COFFEE
- 11.00 17 AUGER ELECTRON SPECTROSCOPY. AN ELECTRON SPECTROSCOPY FOR CHEMICAL ANALYSIS  
Martha Thomas (GTE Sylvania Inc, USA)
- 11.20 18 AN APPROXIMATE IMAGE EQUATION FOR A NEW METHOD OF THE OPTICAL DIAGNOSTICS OF A GLOW DISCHARGE COLUMN  
A Sprachta (Tesla V.U.S.T. Prague)
- 11.40 19 PHOTON PRODUCTION AND INTENSITY CORRELATION  
A A Walma (University of Sheffield)
- 12.00 20 A CONSISTENT ANALYSIS OF INCOHERENT RADIATION TRANSFER PROCESSES IN DISCHARGE LIGHT SOURCES  
M A Cayless (Thorn Lighting, Leicester)
- 12.20 Close of morning session
- 12.30 LUNCH

AFTERNOON VISITS TO: Thorn Lighting Ltd, Research & Engineering Laboratories,  
Leicester  
Physics Department, University of Loughborough  
Belvoir Castle

THURSDAY 10 APRIL

DISCHARGE SOURCES

- 09.00 Invited Paper : D M KOEDAM (Philips, Eindhoven)
- 09.40 (21) HALIDE COMPLEXES IN HIGH PRESSURE DISCHARGE LAMPS  
A G Chalmers, D O Wharmby, F L Whittaker (Thorn Lighting Ltd, Leicester)
- 10.00 (22) ENHANCEMENT OF THE PARTIAL PRESSURE OF LOW VOLATILITY HALIDES IN HIGH PRESSURE DISCHARGE LAMPS  
R Lorenz (Philips, Eindhoven)
- 10.20 23 EFFECTS OF MASS TRANSPORT ON ENERGY BALANCE IN METAL HALIDE ARCS  
G J Kasek (GEC Cleveland, Ohio, USA)
- 10.40 MORNING COFFEE
- 11.00 24 AN ELEMENTARY ARC MODEL OF THE HIGH PRESSURE SODIUM LAMP  
J F Weymouth (GTE Sylvania Inc, USA)
- 11.20 25 MEASUREMENTS OF ELECTRODE POWER DISSIPATION IN HIGH PRESSURE SODIUM LAMPS  
P L Denbigh, D O Wharmby (Thorn Lighting Ltd, Leicester)
- 11.40 26 THE TIN HALIDE ARC  
P C Drop, J J de Groot, A G Jack (Philips, Eindhoven)
- 12.00 27 C.W. AND PULSED ZINC AND CADMIUM VAPOUR ARC LAMP FOR UNDERWATER USE  
M Geller (US Naval Electronic Laboratory Centre, San Diego, USA)
- 12.20 28 A NEW COMPACT FLUORESCENT TUBE  
C E Williams (GEC Hirst Research Centre, Middlesex)
- 12.40 Close of morning session
- 13.00 LUNCH

ELECTRO-LUMINESCENCE

- 14.00 Invited Paper : PROFESSOR G F GARLICK (Dept of Physics, University of Hull)
- 14.40 29 MULTI-CHIP SEMI-CONDUCTOR LAMPS  
R Hall, J R Fitzpatrick, B F Jones (Thorn Lighting Ltd, Leicester)
- 15.00 30 DEEP LEVEL LIMITED EFFICIENCIES IN GALLIUM PHOSPHIDE L.E.D'S  
B Hamilton, T J Hayes, A R Peaker, B L Smith (Ferranti Ltd, Oldham)
- 15.20 TEA
- 15.40 31 TRANSIENT BEHAVIOUR OF LIGHT EMITTING DIODES  
A Descombes (Federal Institute of Technology, Zurich)
- 16.00 32 FACTORS AFFECTING THE EFFICIENCY OF POWDER ZnS DCEL DISPLAYS  
P H T Beatty (GEC Hirst Research Centre, Wembley)
- 16.20 Close of afternoon session

FRIDAY 11 APRIL

MATERIALS

- 09.00 Invited Paper : DR H RAWSON (University of Sheffield)
- 09.40 33 THE MICRO-STRUCTURAL AND MECHANICAL BEHAVIOUR OF TUNGSTEN WIRES AT ELEVATED TEMPERATURES  
J H Day (Thorn Lighting Ltd, Leicester)
- 10.00 34 CARBON AS AN ALTERNATIVE FILAMENT MATERIAL  
W J van den Hoek (Philips, Eindhoven)
- 10.20 35 THE EFFECT OF POROSITY AND GRAIN STRUCTURE ON THE LIFETIME OF INCANDESCENT LAMP FILAMENTS  
O Horacsek, K Horacsek, L Bartha (Research Institute for Technical Physics, Hungarian Academy of Science, Budapest)
- 10.40 MORNING COFFEE
- 11.00 36 CLEANING OF TUNGSTEN FILAMENTS BY ION BOMBARDMENT  
J M Walls (University of Loughborough)
- 11.20 37 MAGNESIUM ALUMINATE SPINELS AS LAMP ENVELOPE MATERIALS  
P Hing (Thorn Lighting Ltd, Leicester)
- 11.40 38 INFRA RED REFLECTING FILTERS AND THEIR APPLICATION IN LIGHT PRODUCTION  
H Kostlin (Philips, Aachen)
- 12.00 39 INTERMEDIATE SEALS FOR LAMPS WITH FUSED QUARTZ ENVELOPES  
T J Barry, L A Lay (National Physical Laboratory, Teddington)  
D T Evans (Thorn Lighting Ltd, Leicester)
- 12.20 40 HIGH TEMPERATURE RESISTANCE OF INCANDESCENT FILAMENTS  
I Gaal, J M Neugebauer, L Uray (Research Institute for Technical Physics of the Hungarian Academy of Sciences, Budapest)
- 12.40 Close of symposium
- 13.00 LUNCH