



In Memory of Gordon Robert Hopkinson, Detector Physicist,
July 4th 1952 – September 12th 2010

Gordon Robert Hopkinson was one of the world's experts in the physics of optical detectors used in a wide range of applications. For three decades he was involved in detailed analysis and modelling of solid state cameras and contributed significantly to the research of their use.

Gordon was born in 1952, the only child of Jessie and Alan and brought up in Nottingham. He was educated at Forest Fields Grammar School, Nottingham and went onto read Physics at Manchester University graduating with first-class honours in 1973, he then undertook a PhD graduating in 1977.

Gordon began his research at Manchester University with spells at Durham and Leicester undertaking post-graduate research on astronomical instruments such as SAROS (Solar Active Region Observations from SpaceLab). His move to Leicester coincided with the emergence of the new and revolutionary solid state detectors, known as Charge Coupled Devices. While at Leicester University he developed ground breaking techniques for achieving low noise performance for Charge Coupled Devices and together with David Lumb wrote the definitive paper on the subject. These techniques were subsequently applied to the new breed of space imaging missions and are still used to this day. The research that Gordon undertook at Leicester would shape his professional life.

In 1983 Gordon moved to the Sira research and development organisation in Kent and immediately found that his expertise in CCDs was essential to fully exploit the capabilities of these devices in a range of new and highly demanding space instrumentation. Gordon's first task was to support the development of the state of the art star trackers and a star mapper for a X-ray satellite mission called ROSAT, funded by the German Space Agency and launched in 1990. The ROSAT mission undertook an all-sky survey of x-ray emitting objects and led to a detailed morphology of supernova remnants and clusters of galaxies. ROSAT operated until

1999. Similar applications soon arose in the use of CCDs for first inter-satellite laser communications system (SILEX), oceanographic monitoring (MERIS) and the measurement of ozone from space (GOMOS), all of which are still in operation today providing invaluable information and capabilities to the European science community.

Over the years Gordon executed numerous R&D activities for the European Space Agency. These R&D activities concerned characterising and assessing the suitability of 2D-imaging devices and detectors for flight in the harsh space radiation environment. Of particular note was a request by the European Space Agency (ESA) for Gordon to undertake detailed radiation analysis on a new but highly demanding astrometric mission called GAIA. This mission aims to create the largest and most precise three dimensional chart of our Galaxy taking measurements of about one billion stars.

Gordon was no stranger to RADECS and NSREC. He is a recognised international authority in his field of research and has published and had citations in numerous papers. He was voted best paper at NSREC 1994. He has participated by invitation in NASA, the European Space Agency (ESA) and Japanese working groups. He acted as chairman at many international conferences and was also a short course (RADECS 2003) instructor and provided MSc courses on the subject of radiation effects in solid state devices much of which has relevance in medical physics. He not only received many credits for his work but through his considerable reputation and expertise sat on the Awards Committee of the Institute of Electrical & Electronic Engineers (IEEE).

Gordon moved with the Sira Space Group to Surrey Satellite Technology Ltd in 2006, and set up new facilities to continue his work. This has included continued research into detectors for space missions such as Solar Orbiter, to produce images of the Sun at an unprecedented resolution, EarthCARE, a joint European-Japanese mission addressing the need for a better understanding of the Earth's climate, and EUCLID, with the primary goal to map and characterise the geometry of the dark universe, a feature of considerable interest to the science community.

Besides his professionalism he is remembered as a gentle person, modest and with a high sense of integrity. He was always willing to help and share his knowledge with his colleagues. Discussions with Gordon usually ended with him proposing a string of new ideas on how to irradiation test 2D imaging devices. He will be sorely missed by friends and colleagues both within the UK and across the world.

Gordon loved barbeques, walking, history, crosswords and real ale. Most family holidays involved incorporating as many of these as possible. Top of the list were camping holidays in France with barbeques every night and walking holidays in Derbyshire, where the route would be planned according to the beer.

He is survived by his wife, Jacqui, whom he married in 1980 and by their two daughters and son.

Mike Cutter, UK – Ali Zadeh, the Netherlands