

Professor Roger Clifton Jennison

1922 – 2006



Ralph Spencer June 2022

CV

- Born Dec 1922 Grimsby
- Educated Cleve Grammar school
- 1941 attended Hull Technical college (engineering)
- Joined RAF October 1941 as aircrew, later worked on radar
- De-mobbed 1947 joins UG Physics Dept. at Manchester under Blackett
- 1950 joins the radio astronomy group at Jodrell Bank for PhD
- 1955 Lecturer in Radio Astronomy
- 1961 Senior Lecturer
- 1964 Professor of Radio Astronomy (JB)
- 1965 Professor of Physics (Manchester)
- 1965 Professor of Physical Electronics (University of Kent, Canterbury)
- 1990 retired Emeritus Professor, UKC

CASE 1535

Roger Clifton JENNISON - 18 years

Firewatcher

28, Park Drive, Grimsby

Local Authority - Hull

Civil Occupation - Student at Technical College

Fire watching, removal of Unexploded bomb etc at Hull on 8th May, 1941, early morning.

Recommended by - Hull Controller

No. 2 (N.Eastern) Regional Commissioner recommends - G.H. dated 26/6/41

Documents (1) Note from Regional Office
(2) Report by Controller

CASE CONSIDERED BY COMMITTEE: 194 . RECOMMENDATION: 194 .

TREASURY RECOMMENDATION: GAZETTED: 194 .

Copy of note from Regional Officer, dated 26th June, 1941.

I enclose an account of the action performed by Roger Clifton Jennison in the night of the 8th May when Hull was heavily raided. In submitting the case the Controller stated that he was doubtful whether it was, in fact, an unexploded bomb which Jennison levered out of the centre of the burning gas main and the Bomb Disposal Section have not been able to help. Mr. Blatchford however, a lecturer in Chemistry who was in charge of the fire fighting squads on the night in question, has written to confirm the statement in detail and accordingly General Bartholomew would like to put Jennison up for a George Medal.

(Sgd) D. Turnell

Copy of report by Controller.

Jennison was on duty at the Technical College as a Fire-Watcher, when an H.E. bomb fell 50 yards away. Whilst incendiary bombs were falling, two of which he extinguished, he searched the crater for casualties, though coal gas was escaping. The gas ignited, menacing a large bus shed - Jennison kept the fire under control at great personal risk. An H.E. bomb landed in the centre of the blazing gas main without exploding. Jennison entered the flames, levered out the bomb with a crowbar, and dragged it into a crater which was flooded with water. He was, during this action, severely cut and shaken by a land mine which burst less than 100 yards away.

Later, he assisted a wounded soldier and continued to search for further casualties.

He next forced an entry into a building on fire at the rear of the Children's Hospital and rescued three girls who were trapped. Whilst extinguishing fires in other buildings, a roof collapsed, burning him. The Technical College also caught fire, and he operated his stirrup pump for half-an-hour, after which, he volunteered to climb an almost vertical ladder to the roof in order to pump water on to the fire at the College.

The reports received indicate that he showed great courage without thought of personal risk throughout the whole raid.

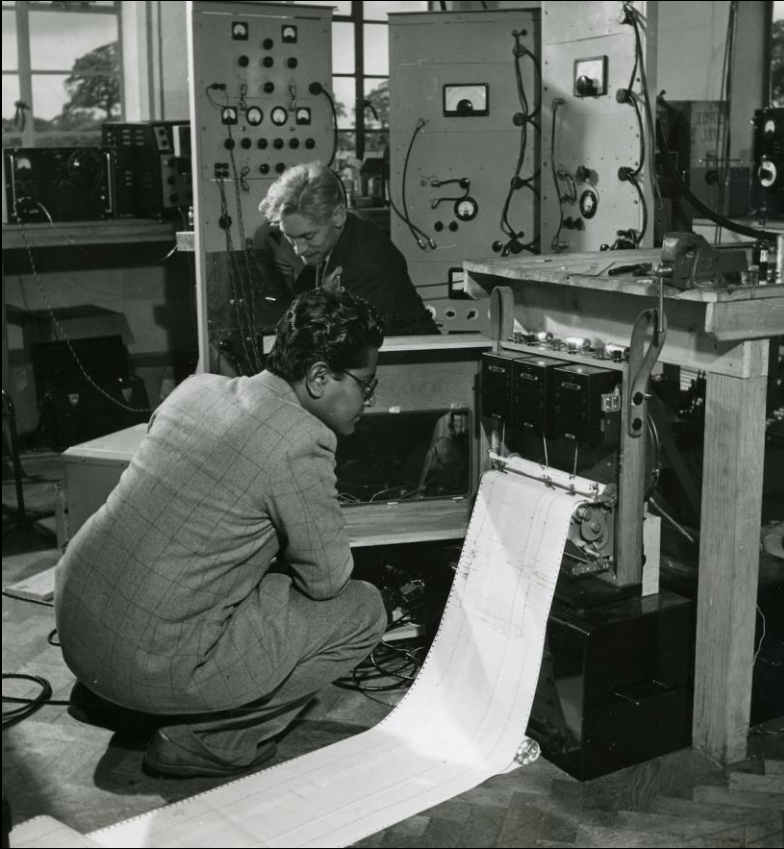
Commendation 1941 May 7 and May 8th (credit Fiona Porter)



(M. Sobhy)

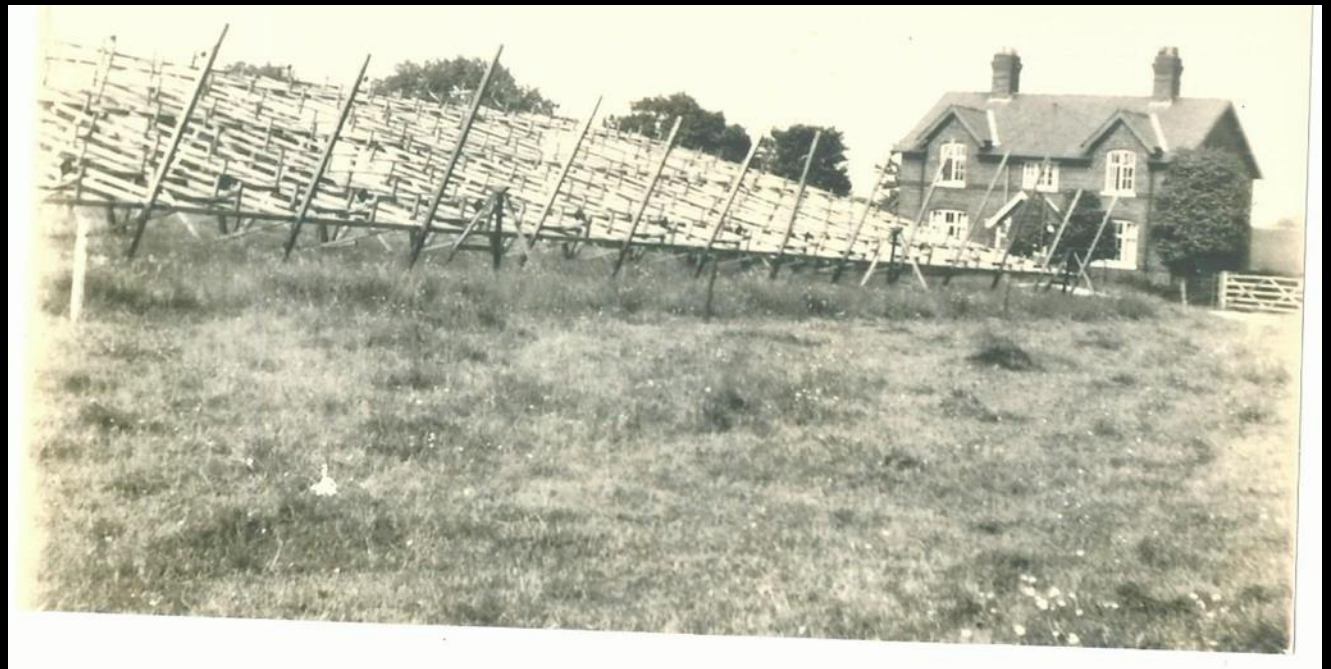
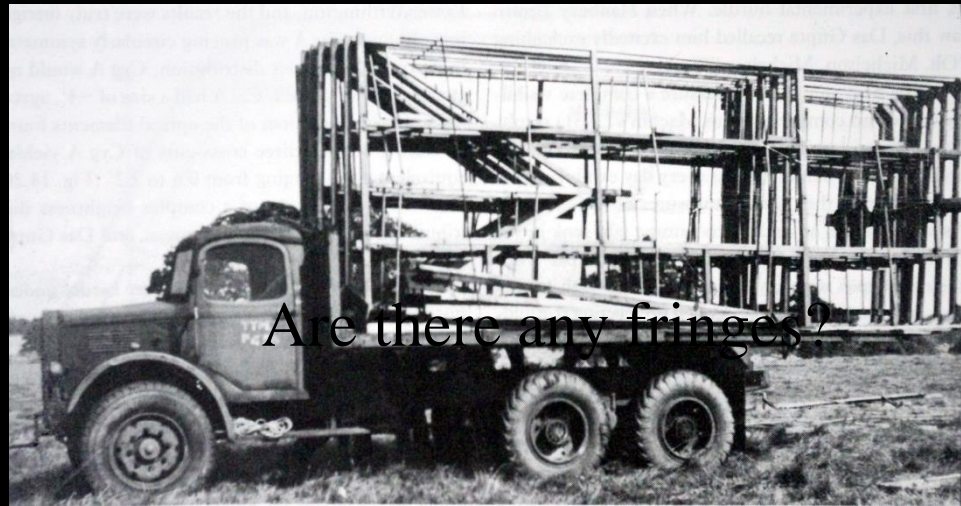
1940's in the RAF

Jodrell days, pre -1965

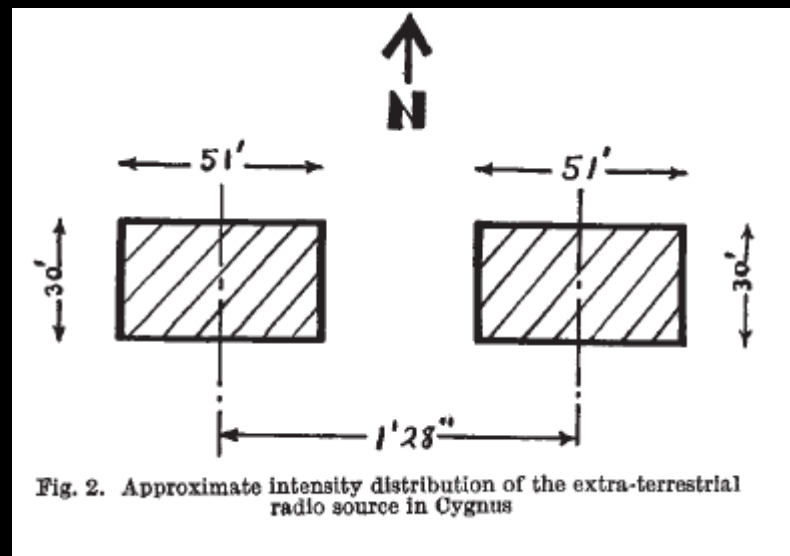
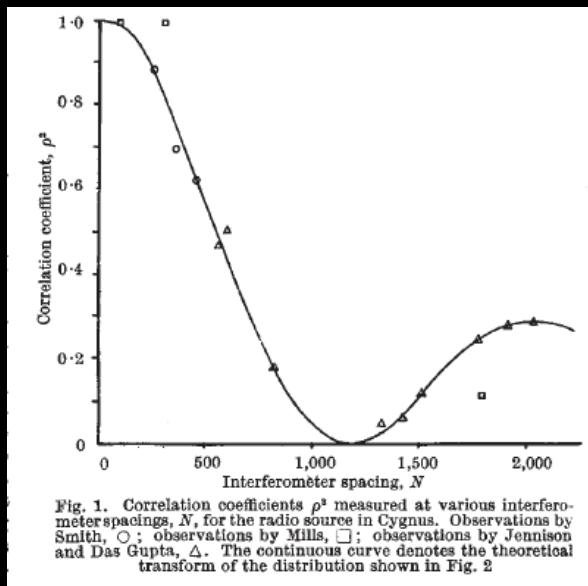


*1947-1950 Physics undergrad Manchester. 1950 joined JB
1951-54 with M. Das Gupta, Pics from JB archive :Tim*

Portable broadside
array at 125 MHz
(Jennison 1955 PhD)



- Jennison and Das Gupta 1952, 1953, 1956
 - Two-element intensity interferometer at 2.4-m λ with baselines up to 5.4 km
 - 3 frequencies – multi-frequency synthesis?
 - Showed Cygnus A to have a double or twin lobed structure
 - Cassiopeia A ~circular, possible shell.



Jennison 1958

MNRAS 118, 276

- Phase sensitive Michelson interferometer:
- Closure phase: electronic and atmospheric errors on each telescope cancel in a sum of the phases on baselines from 3 telescopes
- Closure amplitude for 3 telescopes (need total power measurement) 4 telescopes better!
- Modern imaging techniques solve for the telescope errors

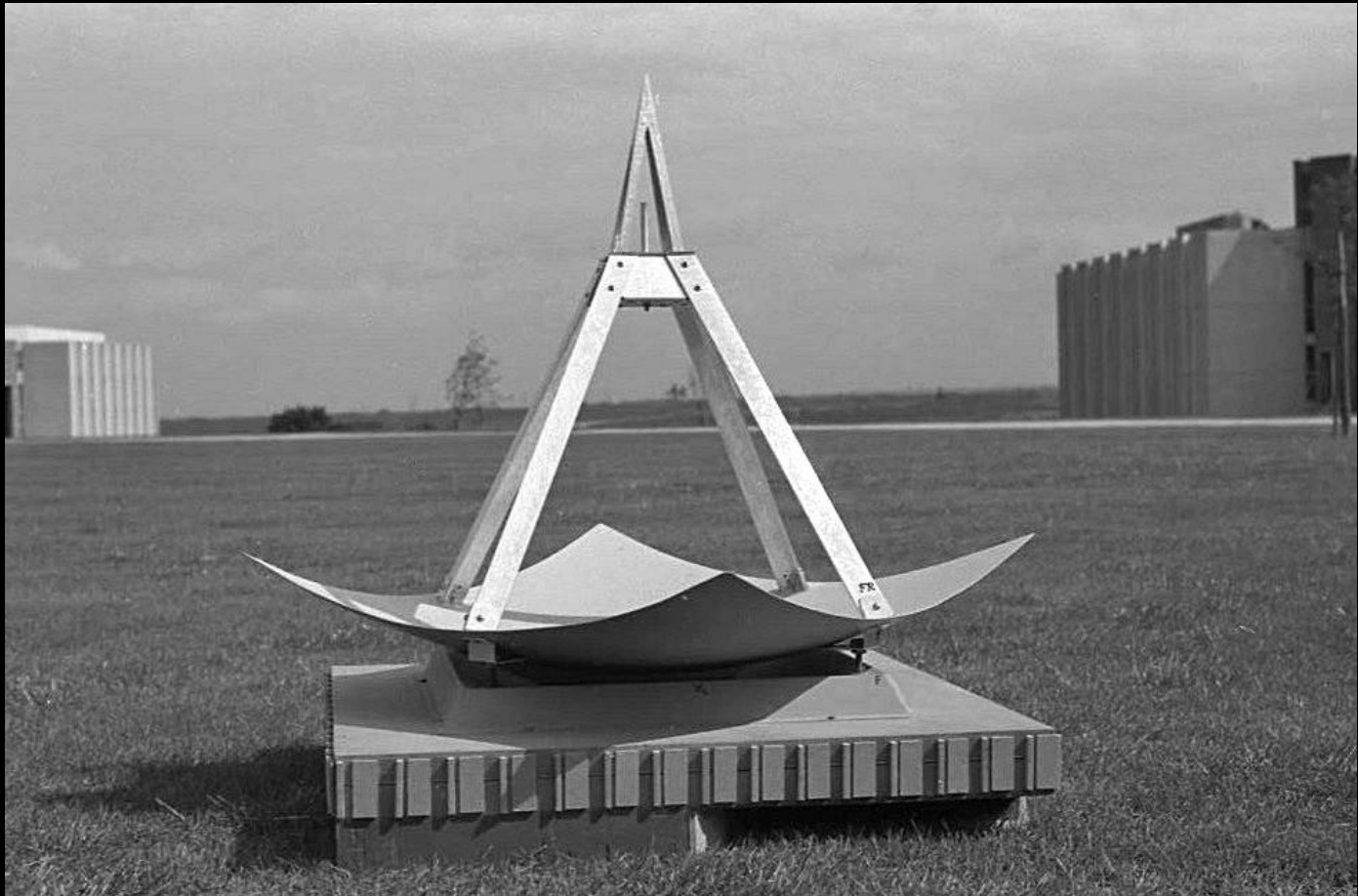


- *University of Kent 1965-2006*
- *1st Professor of Physical Electronics*
- *New building named after him*



RCJ helped design the building, photo credit M Sobhy UKC

Model of building with antenna



- At Kent de developed the department, set up a space science group (cosmic dust, under A. McDonnell). Encouraged building a digital spectrometer used to detect H₂O at Chilbolton (Les Little). He worked on relativity, light paths in rotating systems and ball lightning, retiring in 1990 and becoming emeritus.
- He was a member and later president of the Canterbury Society of Art

*Slide from Andy McNally, produced
2007, edited by RES 6/4/22*

<http://www.canterburysocietyofart.org.uk/>



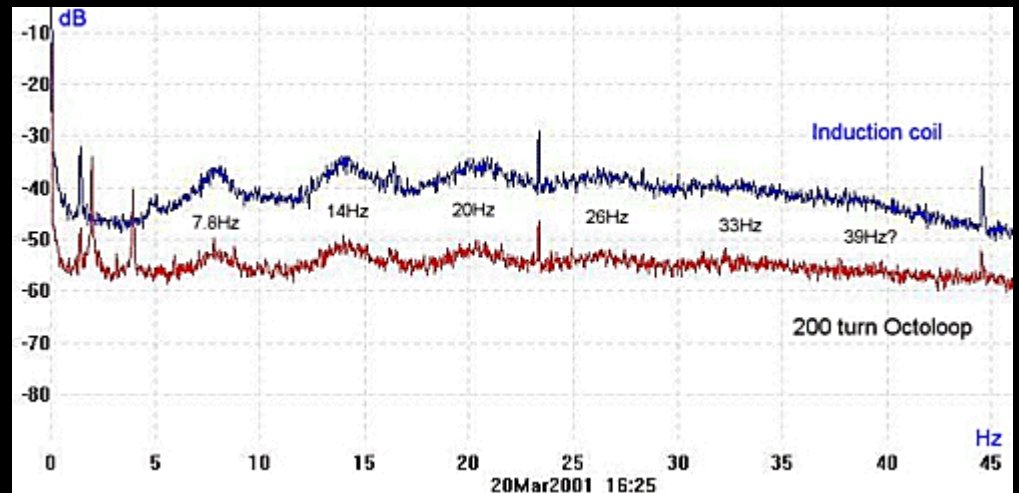
Some of Roger's Novel Ideas

1948: while an undergrad.:Earth-Ionospher resonances at 7 Hz
at JB with W.A.S. Murray. Coil plus iron wire core. Distant
Lightning flashes detected only

A modern version Hans Michlmayr 69300 turns,
iron sheet former

<http://www.vlf.it/inductor/inductor.htm>

Schumann resonances



A TECHNIQUE FOR THE DETECTION AND DETERMINATION
OF THE VELOCITY, MASS, RADIANT, CHARGE AND FLUX
OF MICROMETEORITE PARTICLES IN SPACE

R. C. JENNISON and J. A. M. MCDONNELL

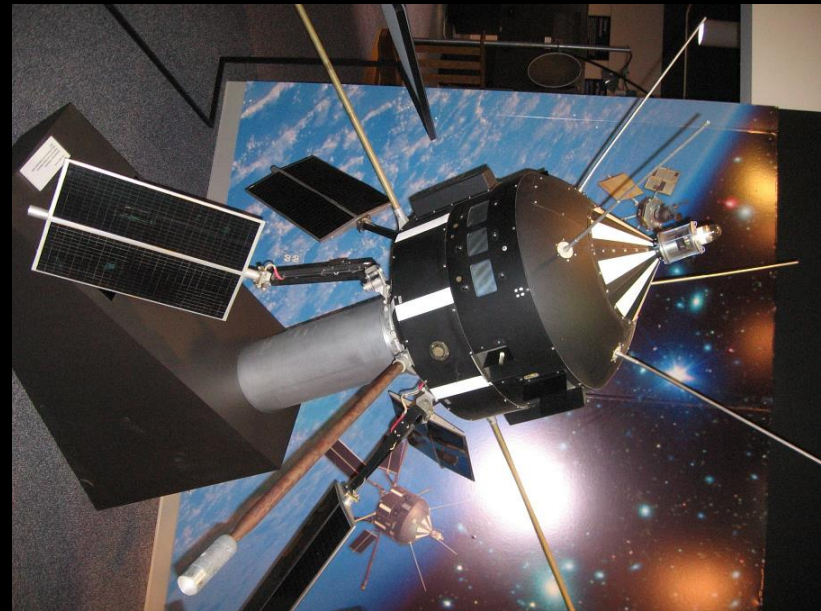
Planet. Space Sci. 1964. Vol. 12. pp. 627 to 635.

The Ariel II Micrometeorite
Measurements

Author(s): R. C. Jennison, J. A. M. McDonnell and
I. Rodger

Proc Roy So of London. Series A, Mathematical and
Physical Sciences, Vol. 300, No. 1461 (Aug. 30,
1967), pp. 251-269

March-November 1964: Al foil penetration technique
used



Cosmic dust penetration near the
Earth much lower than expected. Astronauts are safe!

RADIO ASTRONOMY FROM SPACE VEHICLES

R. C. JENNISON

IN recent years man's knowledge of the universe has been very considerably extended through observations in the 'window' of the electromagnetic spectrum whereby radio waves in the range from about 15 to 15,000 Mc/s may propagate through the upper atmosphere to aeriads situated on the ground. Above 15,000 Mc/s the molecular absorption of the Earth's lower atmosphere renders observation of extra-terrestrial radiation extremely difficult, whilst below 15 Mc/s the Earth's ionosphere and terrestrial interference limit observation at the lower end of the spectrum.

Radio Astronomy Today 1963

A physicist goes dowsing down under

Roger Jennison 1995
Phys. World 8 (6) 21

Ball Lightning

Jennison, R. C.

Abstract

THIS communication records the observation of ball lightning in unusual circumstances.

I was seated near the front of the passenger cabin of an all-metal airliner

(Eastern Airlines Flight EA 539) on a late night flight from New York to Washington.

The aircraft encountered an electrical storm during which it was enveloped in a sudden bright and loud electrical discharge (0005 h EST, March 19, 1963). Some seconds

after this a glowing sphere a little more than 20 cm in diameter emerged from the pilot's cabin and passed down the aisle of the aircraft approximately 50 cm from me, maintaining the same height and course for the whole distance over which it could be observed.

Nature, 224, Issue 5222, pp. 895 (1969).

Bearing of Recent Experiments on the Special and General Theories of Relativity

Nature, 203, Issue 4943, pp. 395-396 (1964)

An approach to the understanding of inertia from
the physics of the experimental method

R C Jennison and A J Drinkwater 1977 J. Phys. A: Math. Gen. 10 167

A class of relativistically rigid proper clocks

R C Jennison 1986 J. Phys. A: Math. Gen. 19 2249

How to make electric charge from a radio wave

A wave in free space can be persuaded to enter a transmission line where its velocity may be reduced whilst still conserving its field pattern. If the transmission line is formed into a closed circle it may be spun at the same angular velocity as that of the wave to produce an electrostatic field in the laboratory, just as from a charged surface, but the primary energy is entirely in the wave field. Which then is the more fundamental, charge or field – do we really need two criminals where one may suffice?

Wireless World August 1983

1982JPhA...15..405J1982/02

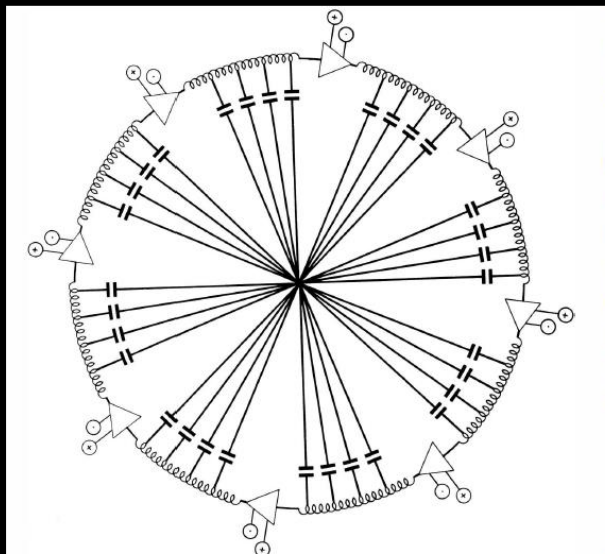


Fig. 3. Artificial delay line whose construction is described in the text in which a wave runs in the clockwise direction. Rotation of the system in an anticlockwise direction at the same angular frequency as that of the wave produces a static field. Red and green light-emitting diodes, connected at the points marked + and -, indicate the stationary wave, as on the cover photograph.

Roger was a great supporter of the arts throughout the district and was a very talented artist, as can be seen from these examples of his work...



CSA



1980;s Credit M. Sobhy, UKC



CSA)



Roger was a Professor of Electronics at the University of Kent and another of Roger's many interests was amateur "ham" radio, which no doubt arose when he worked at Jodrell Bank, the home of the radio telescope.

Roger's aerials grace his garden.



- *Ball Lightning:*
- “It was a subject about which he was very passionate and when our committee came to discuss the design of a sculpture, it seemed natural to depict his hand reaching and holding symbolic Ball Lightning.”
- (CSA 2007)



- *Given as an annual prize for service to the society, now cast in bronze in honour of Roger.*



Thanks to Fiona Porter, Tim O'B, Alastair Gunn. Andrew McNally, Mohammed Sobhy, Tony McDonnell, Woody Sullivan interview 1976 NRAO/URSI Archive

Controversial Bit

Please stop recording!

Radar speed trap

MkI as wall of death

Physics or Radio Astronomy?

--- a brilliant scoundrel!