

letters

body, whatever may be the opinions and actions of its individual members.

ROBERT H. GOOD

California State University, Hayward
7/30/79 Hayward, California

To modern physics

Space is akimbo and time is in limbo
What more can one really say?

The universe is quaquaverse
And tomorrow is yesterday!

The light was bent and Eddington sent
Results that all could see,

Theologians fussed while philosophers
mussed

The continuum as the only reality!
On a Balmer rung hydrogen is strung

It's all so deceptively neat,
Warped and Quarked, teared and c

squared
Matter is no longer concrete!

Once indivisible the atom now quite
fissionable

Much to Fermi's sustained satisfaction,
A meso-thorium experiment made it

self-evident
At a stop light Szilard got his chain reac-

tion!
Galactic drift a spectrum shift

Necessitating a Doppler reading,
Hubble was terse "the square of the in-

verse"

To show us that it's all receding!
The theory of light like day and night

A structure that's apparently dual,
Some thought it odd that even God

Would have to obey the S-matrix rule!
At the cosmic core prime forces num-

bering four
And so far they do as they please!

Would nature yield to a unified field?
For Einstein that was the big tease!

But radiation's frequency resembles de-
linquency

As to which atom will actually leave,
Classical mechanics versus Quantum an-

tics
And Einstein started to grieve!

Bohr just tugged while Heisenberg
shrugged

As Schrödinger waved psi psi,
Albert refused, he wasn't amused

When de Broglie began his reply:
"Deux plus deux pardon,

Font Cinq
C'est une marche longue
D'un court Planck!"

DAVID KLEINMAN
New York, New York

All rights reserved

Right to emigrate

I am an optical scientist working for
Computer Peripherals, Inc., a subsidiary
of Control Data Corporation in Rochester,
Michigan.

I was born in the USSR and emigrated
to the United States of America in 1976
with my wife and son.

I have enjoyed PHYSICS TODAY for
many years for both its scientific and po-
litical coverage. Today, with pride at
having become a member of the American
scientific community, I welcome your
editorials highlighting the situation of
Soviet scientists being refused exit visas
in Russia.

My parents and grandmother applied
for emigration in 1977 and were refused
three times in a row so far without being
given a clear reason. After desperate at-
tempts to appeal to the Soviet authorities
I can't see any other way than to ask for
wide publication of this case to attract the
attention of concerned scientists
throughout the world. This could be
helpful to my relatives and other people
in nonfree societies who want to be free.
I consider the unwillingness of the Soviet
government to issue an exit visa to my
folks as a new way of retaliating and
threatening Soviet scientists who have left
or are going to leave Russia for the US.

BORIS J. MUCHNIK
Rochester, Michigan

6/30/79

Benefit of radioastronomy

The remarks by Bernard Burke entitled
"Cost benefit of radioastronomy" (June,
page 15) deserve some comment. Burke's
principal aim is to justify the great ex-
pense involved in present-day radioas-
tronomy by appealing to the practical
advantages it provides for humanity by
the way. Such a defense in itself is not
only irrelevant but it may well backfire
when the practical results don't live up to
expectations. One should not argue for
radioastronomy because it can give us a
faster baked potato in a microwave oven,
any more than support of classical music
should be justified because it allows tele-
vision jingle writers another musical
outlet. Science and art are their own
justification, and to appeal to practicality
debases both the practitioners of science
and those who support it. In his testi-
mony before a Senate committee, Robert
Wilson was asked what contribution the
National Accelerator Lab made to the
national defense. He replied that it made
none, except to make the country worth
defending. Astronomy needs no further
defense than that it adds meaning to
human existence.

But the letter by Burke misses the
mark on one other point. He is indirectly
arguing for more money for radioastro-
nomy, an already expensive enterprise.
And he briefly appeals to its great suc-
cesses in pure science to justify this ex-
pense: he refers to pulsars, quasars and
the 3 K cosmic background radiation as
examples. Two of these discoveries have

continued on page 96

DRIVING AN ULTRASONIC TRANSDUCER?

The ENI Model 1040L Power
Amplifier was designed as
the ultimate wideband power
source for ultrasonic appli-
cations. Capable of produc-
ing more than 400 watts of
continuous output into any
ultrasonic transducer, the
Model 1040L covers the
frequency range of 10kHz
to 1MHz without tuning.



Its exclusive true reading
power meter, makes matching
and ultrasonic system cali-
bration easy and accurate.
With fail-safe reliability, un-
conditional stability, 100%
solid state componentry and
extremely rugged construc-
tion the 1040L is the best
ultrasonic power source you
can buy.

Electronic Navigation
Industries, Inc.
3000 Winton Road South
Rochester, New York 14623
Tel. (716) 473-6900
Telex 97-8283 ENI ROC

ENI

The World's Leader
in Power Amplifiers

Circle No. 15 on Reader Service Card