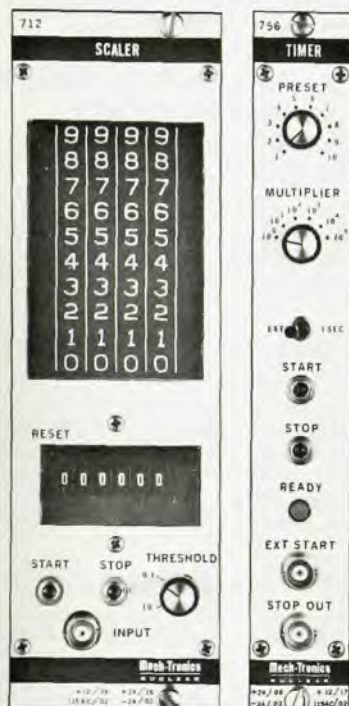


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ing with it from the sun a radially ex-
tended magnetic field of the order of
 10^{-5} - 10^{-4} gauss in the earth's veloc-
ity.

Solar-wind problems are far from be-
ing exhaustively interpreted, and the
book everywhere underlines uncertain-
ties in this respect. Also, the author's
treatment is laconic and presumes con-
siderable background knowledge by the
reader, who will often have to consult
other sources to obtain clear under-
standing of theory and fact.

Therefore, the stated aim of the text,
destined for the "advanced undergrad-
uate... the beginning graduate stu-
dent" and "scientists in other fields,"
may be somewhat over-optimistic. A
reader who will master and under-
stand the book completely, will have to
perform much more work and thinking
than simply reading it as it stands. After
that, he may qualify as a full-
fledged researcher in the field, far more
than merely an "undergraduate." Thus,
while being a hard nut to crack for an
unprepared reader, the mono-
graph may offer good training toward in-
dependent thinking. This in particu-
lar refers to some incomplete label-
ling of the copious illustrations, to half-
finished sentences, or to obvious slips of
the pen such as the contention (on page
8) that electrostatic repulsion leads to
one-half "the effective proton mass,"
"mass" being here confused with
"weight." However, the algebra is
generally correct.

Ernst J. Öpik

*Armagh Observatory, Northern
Ireland and the University of Maryland*

Interpretation of Spectra and Atmospheric Structure in Cool Stars

By Y. Fujita

145 pp. University Park Press, Baltimore,
Md., 1970. \$10.00

The study of the atmospheric structure
of cool stars has become a very active
field of research in the past decade.
Y. Fujita has summarized in this book
some of the work done in this area up
to 1968. Fujita and his associates in
Japan have been working on cool stars
for a long time. This book deals pri-
marily with their work.

The topics discussed in this book
include: identification of spectral lines,
dissociative equilibrium, opacities and
model atmospheres, spectral classifi-
cation, quantitative analysis of spectra
and chemical composition. The book
gives a fairly detailed discussion of the
observed spectra of cool stars, and quite
a few spectrograms and tracings have
been included. I was surprised not to
see any discussion of the observations
on mass loss from cool stars, on infrared
stars and on flare stars. The discussions

of opacities and model atmospheres are
brief and dated. There is no mention of
the early work on nongray atmospheres
of cool stars by Owen Gingerich and
his colleagues. Convective energy
transport plays an important role in the
atmospheres of cool stars and a detailed
discussion of this problem should have
been given.

Fujita's contributions to the study
of carbon stars are well known, and the
book gives a fairly detailed discussion
of these stars. One chapter of the book
is devoted to the interesting problem of
the C^{12}/C^{13} ratio in carbon stars.

Although this book deals only with
selected topics concerning cool stars,
I am sure that all workers interested
in this rapidly developing field will
find it very useful. The book is hand-
somerly produced and reasonably priced.

Shiv. S. Kumar

University of Virginia, Charlottesville

Nuclear Collective Motion: Models and Theory

By D. J. Rowe

340 pp. Barnes and Noble, New
York, 1970. \$17.50

The subject matter of this book is ap-
propriately divided into two parts.
The first part treats the purely phe-
nomenological aspects of collective
nuclear motion, while the second delves
into the microscopic theory. The
author avoids an historical development,
as ample scientific perspective now
exists on this subject for a more logical
presentation. The material is well
organized, and his logical approach is
quite successful.

One of the primary highlights, in my
opinion, is a large number of clever
pedagogical examples that the author
uses to clarify comparatively subtle
theoretical aspects of the model. Many
of these examples are real gems, not
readily available elsewhere in the lit-
erature. In general, even the most so-
phisticated aspects of the subject are
presented with exceptional clarity.
The book is particularly well suited for
graduate students and physicists who
are encountering the material for the
first time. The academic level is ap-
propriate to a second-year graduate stu-
dent who has had a standard course in
quantum mechanics and a rudimentary
knowledge of nuclear physics. Spe-
cialized mathematical methods are con-
veniently presented in the appendices.

Most of the defects are pointed out
by D. J. Rowe himself. No attempt
was made toward complete referencing.
I would strongly recommend that an
extensive bibliography for this text
should be compiled, if the author con-
templates a revised edition. Similarly,
I would like to see a larger selection of