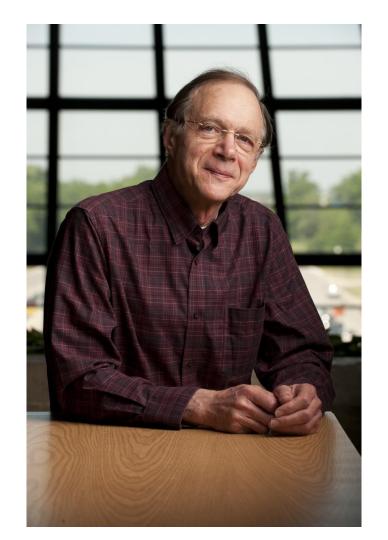
# Remembering Boris Kayser

Kevin McFarland Deborah Harris

Photo: Reidar Hahn



### Early Neutrino Work

Copyright: 1989 (9 years before "smoking gun" evidence that neutrinos really do oscillate generally accepted)

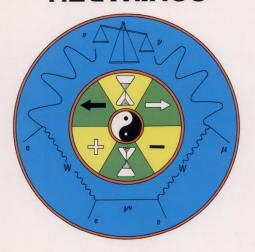
https://doi.org/10.1142/0655



Boris Kayser is the Program Director for Theoretical Physics at the U.S. National Science Foundation. He received an A.B. from Princeton University in 1960, and a Ph.D. from the California Institute of Technology in 1964. His special interest has been elementary particle theory close to the interface between theory and experiment. During the last few years, he has extensively explored the physics of neutrinos with non-zero rest masses. He likes dogs.

World Scientific Lecture Notes in Physics Vol. 25

# THE PHYSICS OF MASSIVE NEUTRINOS



BORIS KAYSER
with
FRANÇOISE GIBRAT-DEBU and FREDERIC PERRIER

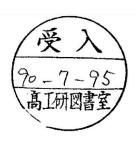
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# A lesser known paper by Boris

https://lib-extopc.kek.jp/preprints/PDF/1990/9007/9007095.pdf

August 4, 1988



#### IS HINCHLIFFE'S RULE TRUE? ·

Boris Peon

#### Abstract

Hinchliffe has asserted that whenever the title of a paper is a question with a yes/no answer, the answer is always no. This paper demonstrates that Hinchliffe's assertion is false, but only if it is true.



## Boris at 2015 International Summer School





in ICTP-SAIFR

#### Selected Slides from Boris's Summer School Lectures

#### What Are Neutrinos Good For?

Energy generation in the sun starts with the reaction —

$$p + p \rightarrow d + e^{+} + v$$
  
Spin:  $\frac{1}{2}$   $\frac{1}{2}$   $1$   $\frac{1}{2}$   $\frac{1}{2}$ 

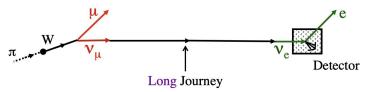
Without the neutrino, angular momentum would not be conserved.

Uh, oh .....



#### Neutrino Flavor Change ("Oscillation")

If neutrinos have masses, and leptons mix, we can have —



Give a v time to change character, and you can have

for example:  $v_{\mu} \longrightarrow v_{e}$ 

The last 17 years have brought us compelling evidence that such flavor changes actually occur.

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## Boris's Opinion on Neutrino Interactions

"To measure CP violation you don't need to understand neutrino cross sections, you just need to use a neutrino beam and a near and far detector, together with an antineutrino beam and a near and far detector made of anti-matter"

#### To send condolences

https://www.dignitymemorial.com/obituaries/toms-river-nj/boris-kayser-11770406