

# Welcome to School and Workshop on pQCD @ Westlake



物理学系 王淦昌题

Zhejiang Institute of Modern Physics  
Department of Physics, Zhejiang University

# ZHEJIANG UNIVERSITY

Founded in 1897, one of the oldest Modern universities in China



20K ugrd, 25K grd.

- HUMANITIES
- SOCIAL SCIENCES
- SCIENCES
- ENGINEERING
- INFORMATION TECHNOLOGY
- AGRICULTURE, LIFE AND ENVIRONMENT
- MEDICINE



# DEPARTMENT OF PHYSICS

Physics course since 1897; Department of Physics since 1928

物理学系 王合昌题



- THEORETICAL HIGH ENERGY AND NUCLEAR PHYSICS
- CONDENSED MATTER PHYSICS  
*Superconductor/Quantum Computing/Topological Device*
- OPTICS  
*Quantum Optics, AMO*
- THEORETICAL PLASMA PHYSICS  
*MCF / ICF/ space plasma*
- STATISTICAL PHYSICS
- BIOPHYSICS

86 faculty members  
350 grad. ; 450 ugrad.



# HIGH ENERGY PHYSICS AND NUCLEAR PHYSICS

Kan-Chang Wang

## A Suggestion on the Detection of the Neutrino

KAN CHANG WANG

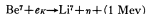
Department of Physics, National University of Chekiang Tsunyi,

Kaueishow, China

October 13, 1941

IT is known that the presence of the neutrino cannot be detected by its own ionization effect. It appears that the only hope of getting evidence of its existence is by measuring the recoil energy or momentum of the radioactive atom. Crane and Halpern<sup>1</sup> have, by measuring the momentum and energy of the emitted  $\beta$ -ray and the recoil atom with a cloud chamber, obtained evidence pointing toward the existence of the neutrino. However, owing to the smallness of the ionization effect of the recoil atom, it seems worth while to consider a different method of detecting it.

When a  $\beta^+$ -radioactive atom captures a  $K$  electron instead of emitting a positron, the recoil energy and momentum of the resulting atom will depend *solely* upon the emitted neutrino, the effect of the extra-nuclear electron being negligible. It would then be relatively simple to find the mass and energy of the emitted neutrino, by measuring the recoil energy and momentum of the resulting atom *alone*. Moreover, this recoil is now of the same amount for all atoms, since no continuous  $\beta$ -rays are emitted. We take for example the element  $\text{Be}^7$  which decays in 43 days with  $K$  capture in two different processes:<sup>2</sup>



Phys. Rev. 61, 97 (1941)



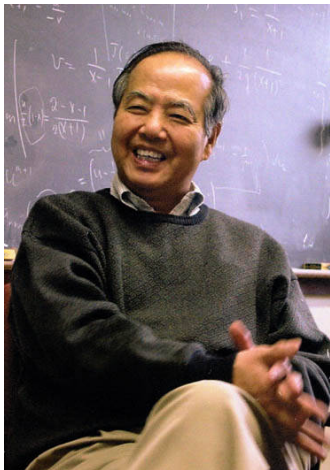
- First proposed to use  $K$ -capture to detect neutrino
- Led the discovery of  $\Sigma^-$  hyperon at Dubna
- First proposed of Inertial Confinement Fusion (IFC)
- Led the nuclear program in China



# HIGH ENERGY PHYSICS AND NUCLEAR PHYSICS

Tsung-Dao Lee

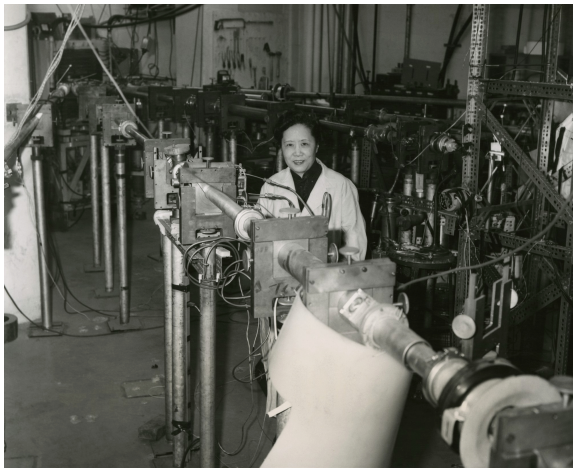
Class of 1943



# HIGH ENERGY PHYSICS AND NUCLEAR PHYSICS

Chien-Siung Wu

Teaching Assistant @ ZJU before going to Berkeley



# ZHEJIANG INSTITUTE OF MODERN PHYSICS

Since 1991

T.D. Lee (Founding Director)

浙江近代物理中心



currently 25 faculty members



# THEORETICAL HIGH ENERGY AND NUCLEAR PHYSICS

- FIELD THEORY  
Scattering Amplitude, String
- PHENOMENOLOGY  
pQCD, BSM, Collider, Flavor
- HADRON PHYSICS  
Hadron Physics, Lattice QCD
- NUCLEAR PHYSICS  
Astro-nuclear, neutron star

Yi-Xin Chen  
Bo Feng  
Hong-Yin Jin  
Ding-Hui Lu  
Ming-Xing Luo  
Kai Wang  
Gentaro Watanabe  
Ellis Y. Yuan  
Jian-Bo Zhang  
Guohuai Zhu  
Hua-Xing Zhu





*Enjoy the physics, our campus and the Westlake!*

