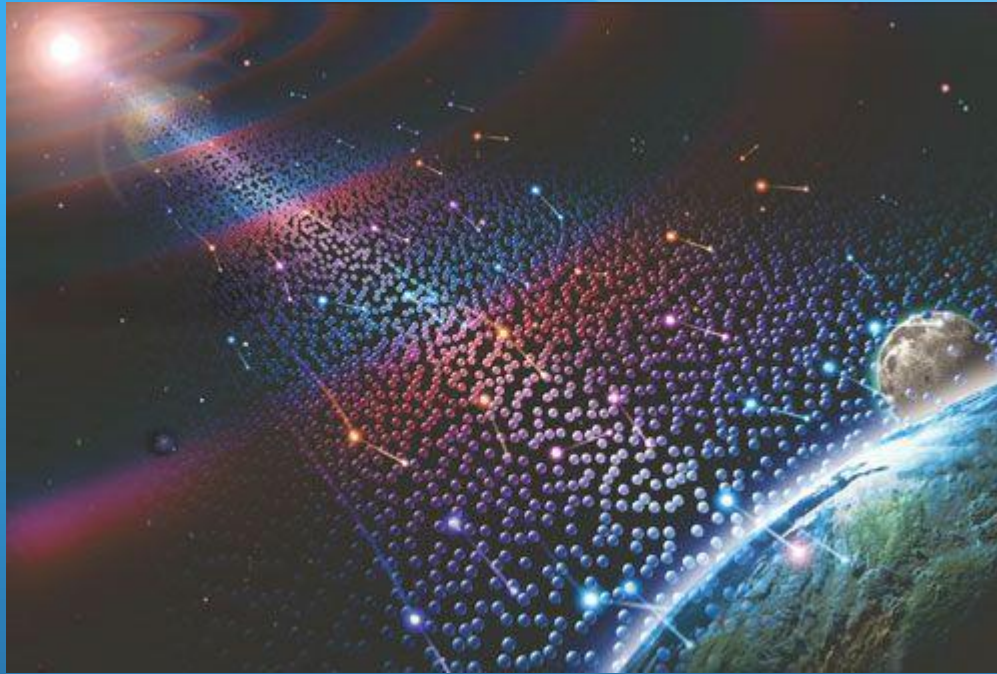


Neutrinos

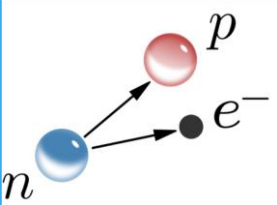
The little neutral ones



- Every second:
hundreds of billions of neutrinos pass through your thumb
- Only **few** neutrinos will interact with your body
in your lifetime

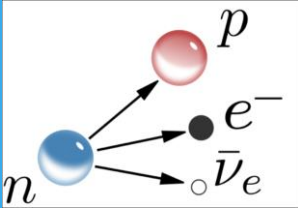


Who needs energy conservation in modern times?

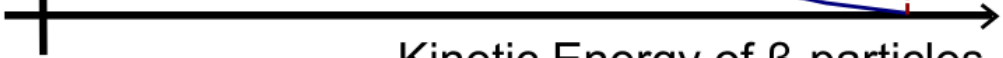


β -particle count \uparrow

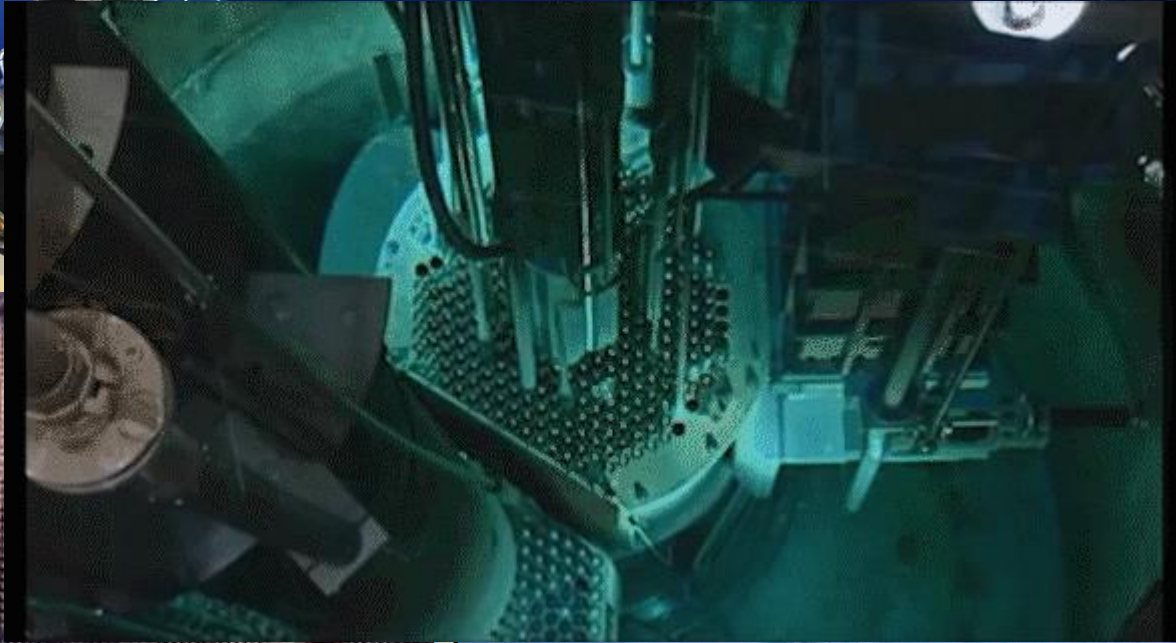
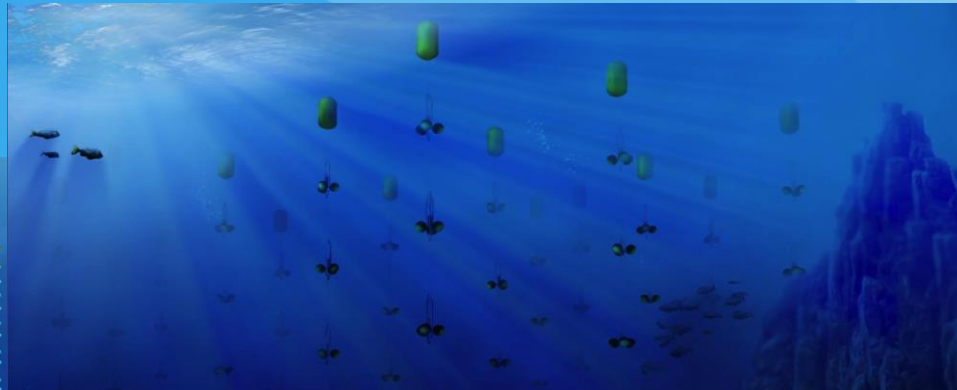
I have done something very bad today by proposing a particle that cannot be detected; it is something no theorist should ever do.



Kinetic Energy of β -particles \rightarrow



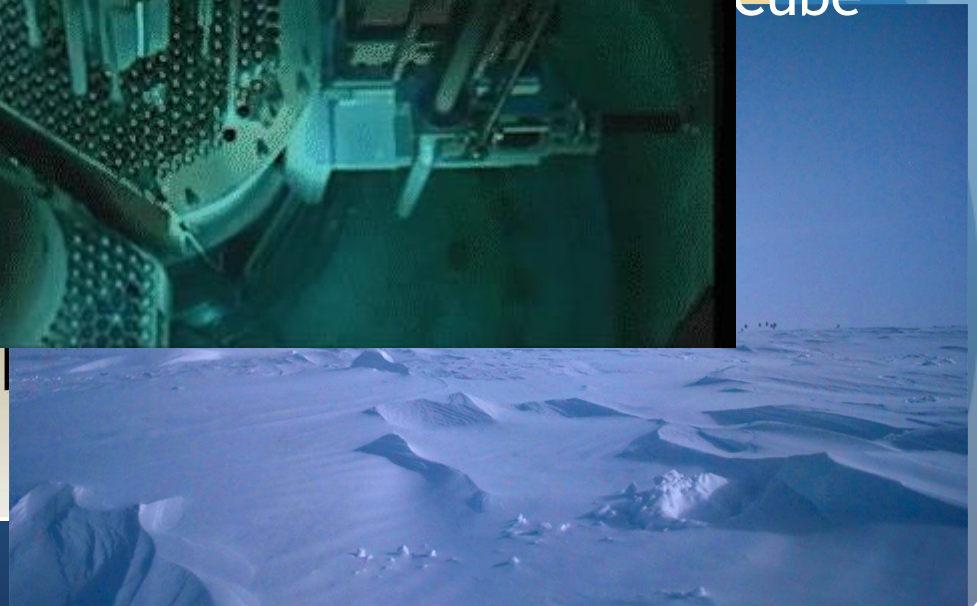
Detection



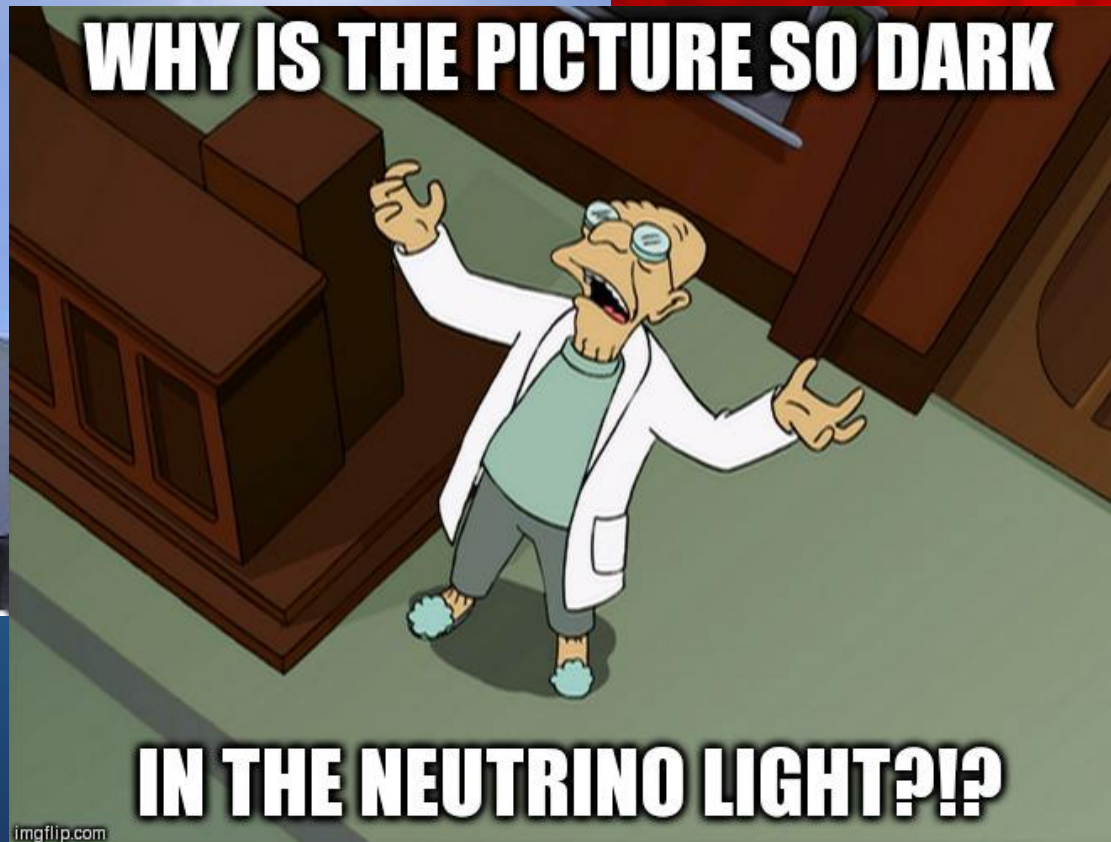
Cube



Super-Kamiokande



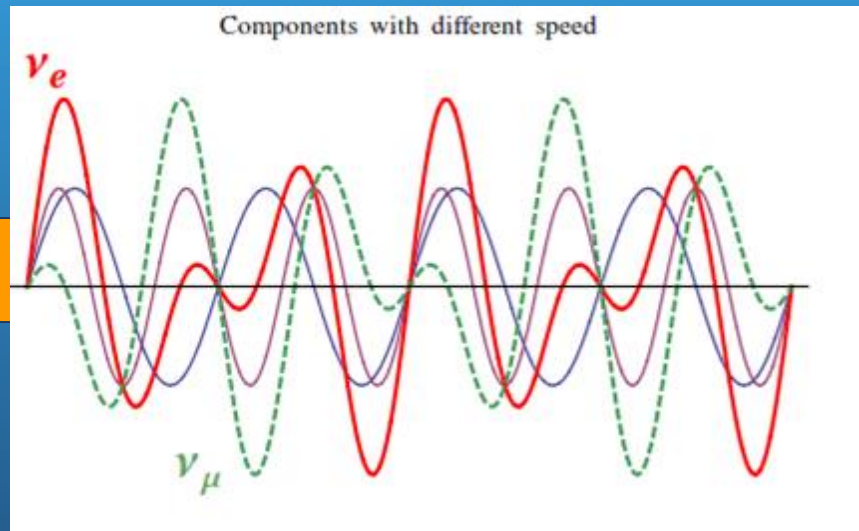
Take a picture with neutrinos



Oscillations

- Neutrino flavor can change via oscillation.

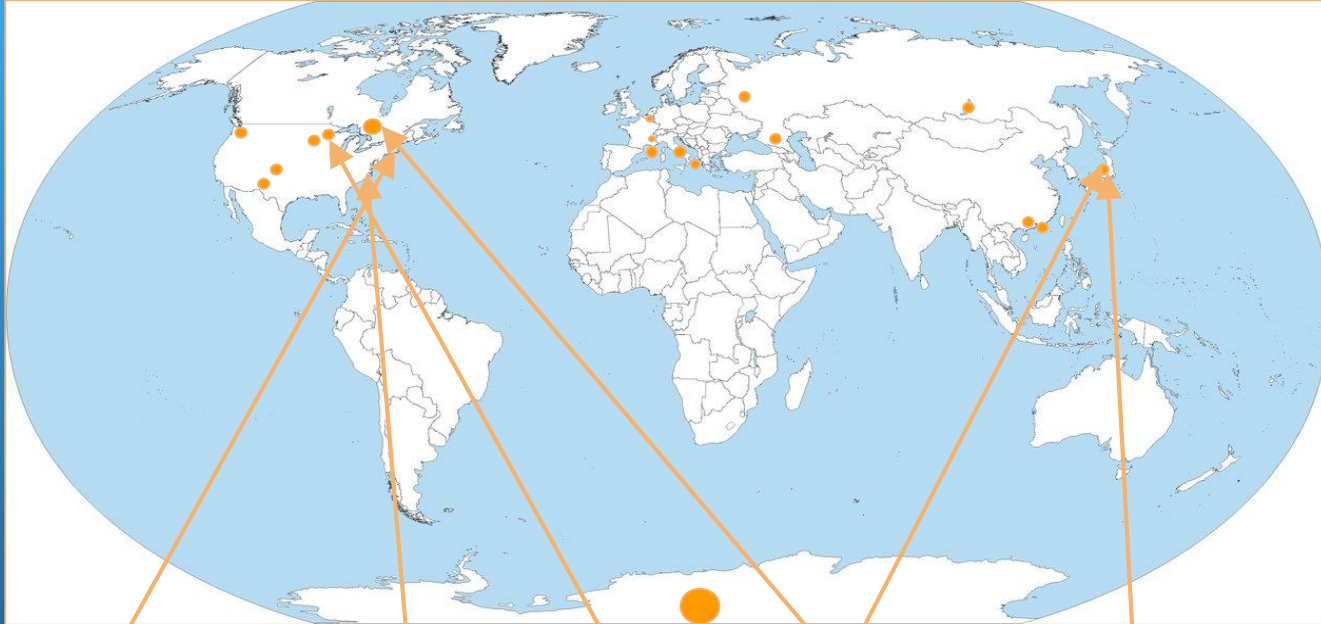
Three flavours of neutrino



- Mystery of disappearing solar neutrinos resolved

Efforts in neutrino research

~ 50 neutrino **experiments** hosted across **10** different **countries**



1988

for neutrino beam method, and
detection of the muon neutrino

2002

for detection of cosmic
neutrinos

4 Nobel prizes

1995

for detection of the
neutrino

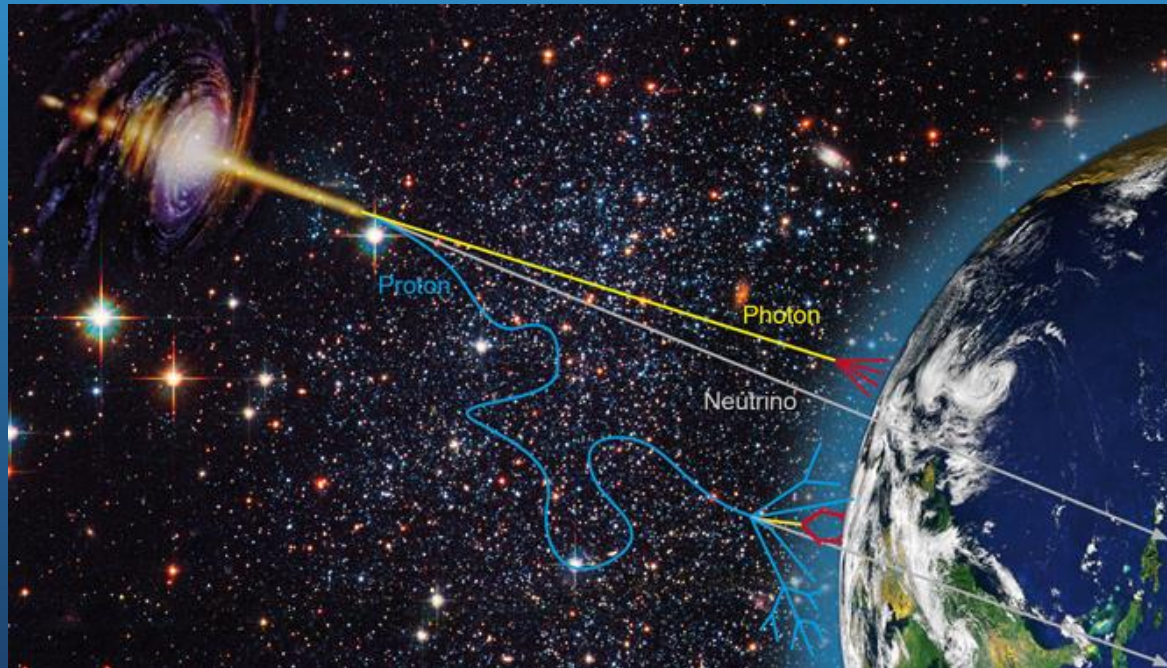
2015

for discovery of
neutrino oscillations



Open questions

- Discover the deep nature of neutrinos
- Probe our Universe:



Thank you!

Thank you!

Backup

