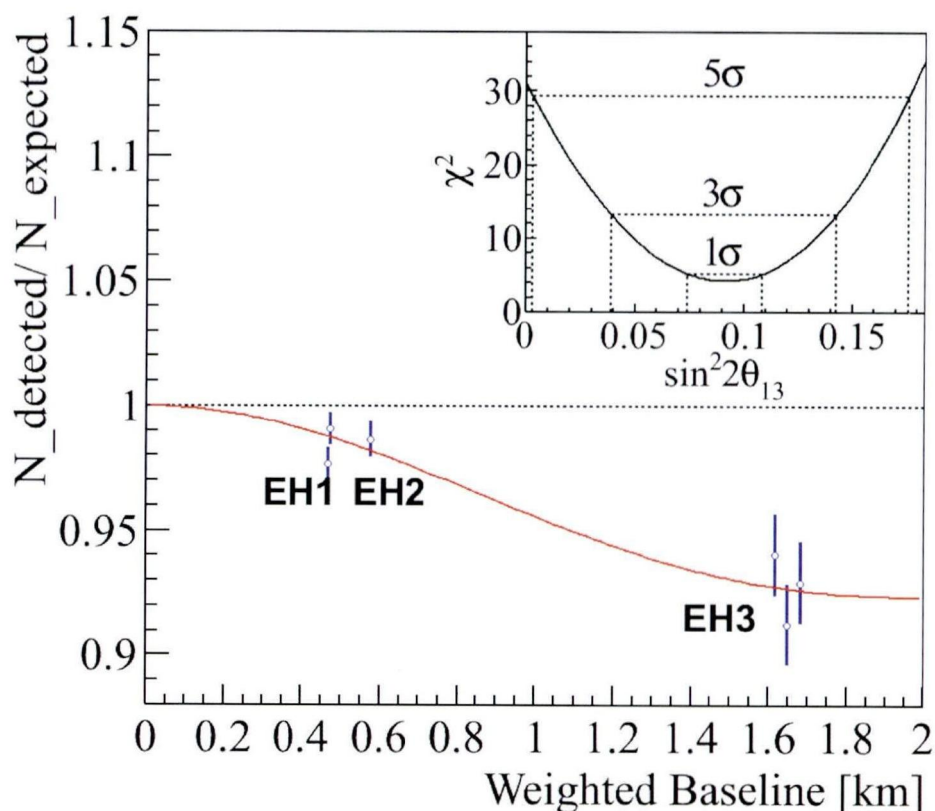


Daya Bay reactor neutrino experiment: discovery of a new kind of neutrino oscillation

On March 8, 2012, the Daya Bay Collaboration announced that a new kind of neutrino oscillation (corresponding to neutrino mixing angle θ_{13}) had been discovered. Its measured oscillation amplitude is 9.2%, with an error of 1.7%, corresponding to a probability of one part per ten million for null oscillation. This result revealed a basic property of neutrinos and opened a gateway towards the understanding of the “mystery of matter-antimatter asymmetry”. It is well received by the international community of high-energy physics, and is considered to be a milestone of neutrino physics.

The International Collaboration led by Wang Yifang from the Institute of High Energy Physics, Chinese Academy of Sciences (CAS) creatively proposed the experiment plan for measuring neutrino mixing angle θ_{13} by using the reactor complex of the Daya Bay nuclear power plant. The experiment started engineering construction in October 2007, and began data taking on December 24, 2011. By analyzing 55 days of data, they obtained this important result.



Daya Bay reactor neutrino experiment is actually the starting point of China's neutrino physics study. By nine years' effort, the experimental neutrino physics study in China becomes forefront in the world starting from scratch. The research is supported continuously by the National Natural Science Foundation of China.