



PHYSICS COLLOQUIUM

H.T. Richard Lecture

Neutrino Oscillations

Recent Triumphs and Future Challenges



Bob McKeown

Caltech

Host: Heeger

Abstract: Recent studies of neutrino oscillations have established the existence of finite neutrino masses and mixing between generations of neutrinos. The combined results from studies of atmospheric neutrinos, solar neutrinos, reactor antineutrinos and neutrinos produced at accelerators paint an intriguing picture that clearly requires modification of the standard model of particle physics. These results also provide clear motivation for future neutrino oscillation experiments as well as searches for direct neutrino mass and nuclear double-beta decay. I will summarize the status of experimental and theoretical work in this field and discuss the future opportunities that have emerged in light of recent discoveries.

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