



## Parity of Pions and CP Violation in Neutral Kaon System

*Saturday, July 7, 2012 6:00 PM (1 hour)*

The parity of pions will be discussed within the framework of the Generation Model [1] of particle physics and it will be shown that both the 1954 determination [2] of the parity of the charged pions and the 2008 determination [3] of the parity of the neutral pion are compatible with the mixed-parity nature of the pions predicted by a recent composite Generation Model [4]. The development of the Generation Model as an alternative to the Standard Model of particle physics will be discussed. It will be demonstrated how the Generation Model leads to a unified classification of leptons and quarks and how this makes feasible a composite model of the fundamental particles of the Standard Model. In particular it will be shown that the 1964 CP violating experiment of Christenson et al. [5] may be understood without CP violation.

[1] B.A. Robson, *Int. J. Mod. Phys. E* 11 (2002) 555; *Int. J. Mod. Phys. E* 13 (2004) 999.

[2] W. Chinowsky and J. Steinberger, *Phys. Rev.* 95 (1954) 1561.

[3] E. Abouzaid et al., *Phys. Rev. Lett.* 100 (2008) 182001.

[4] B.A. Robson, *Int. J. Mod. Phys. E* 20 (2011) 733.

[5] J.H. Christenson, J.W. Cronin, V.L. Fitch and R. Turlay, *Phys. Rev. Lett.* 13 (1964) 138.

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