RECENT FINDINGS FROM APOLLO MAGNETIC FIELD RECORDS. P. J. Chi[1], [1]Department of Earth, Planetary and Space Sciences, University of California Los Angeles, Box 951567, Los Angeles, California 90095 (pchi@igpp.ucla.edu).

Three Apollo missions collected digital magnetic field measurements by the Lunar Surface Magnetometers on the surface (Apollo 12, 15, and 16) and by Subsatellite Biaxial Magnetometers in orbit surrounding the Moon (Apollo 15 and 16). After approximately a half century, the Apollo 15 and 16 missions are still the only lunar missions conducting simultaneous surface and orbital magnetic field experiments. The Apollo magnetic field experiments enabled many first discoveries, such as the lunar magnetic anomalies and the electrical conductivity of the Moon.

A recent effort has restored most of the Apollo magnetic field records from the archaic data format originally archived. The restored LSM data have revealed many narrowband ion cyclotron waves in the Earth's magnetotail that were not investigated during Apollo years [1]. The restored data also allow reanalyses for the Moon-solar wind interaction and magnetic sounding of the lunar interior. We find that the observed transfer function responses in both tangential and radial components on the lunar surface are consistent with theoretical expectations at least for frequencies greater than 10^{-4} Hz. The comparison between SBM and LSM data indicates that, when the Moon is in the solar wind, the surface magnetic field is slightly enhanced on the sunward side. This paper summarizes the recent findings from the restored Apollo magnetic field data and discuss the unexplored topics for future magnetic field measurements on the lunar surface.

References: [1] Chi P. J. et al. (2013) *Planet. Space Sci., 89*, 21-28.