Zirconium in lunar ilmenite
G. Arrhenius, J. E. Everson, R. W. Fitzgerald and H. Fujita
Scripps Institution of Oceanography
University of California
La Jolla, California 92037

The zirconium concentration in homogeneous lunar ilmenite is anomalous with regard to magnitude and distribution in comparison with terrestrial ilmenites crystallized from melts with similar zirconium concentrations. Ilmenite crystals, saturated with zirconium, were synthesized in the temperature region 1000-1200°C. Measurement of these crystals shows that the solubility limit exceeds the zirconium contents in the lunar and terrestrial crystals. The observed zirconium distribution is discussed in terms of crystallization history of the rocks.