Phase equilibria of a S- and C-poor lunar core

RIGHTER, K.1, PANDO, K.2, GO, B.M.3, DANIELSON, L.R.4, AND HABERMANN, M.5

1Mailcode XI2, NASA Johnson Space Center, Houston, TX 77058; kevin.righter-1@nasa.gov
2 UTC– Jacobs JETS Contract, NASA Johnson Space Center, Houston, TX 77058
3Dept. of the Geophysical Sciences, University of Chicago, Chicago, IL 63130
4Jacobs, NASA Johnson Space Center, Houston, TX 77058
5HX5, NASA Johnson Space Center, Houston, TX 77058

The composition of the lunar core can have a large impact on its thermal evolution, possible early dynamo creation, and physical state [1]. Geochemical measurements have placed better constraints on the S and C content of the lunar mantle [2,3]. In this study we have carried out phase equilibrium studies of geochemically plausible S- and C-poor lunar core compositions in the Fe-Ni-S-C system, and apply them to the early history of the Moon.