

Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



PPS004-03

Room:101

Time:May 27 14:45-15:00

Iron sulfide formation in protoplanetary disks

Shogo Tachibana^{1*}

¹Dept. Earth Planet. Sci., Univ. Tokyo

Sulfur is a major volatile element in the solar system, and it shows various degrees of depletion in chondrites reflecting fractionation of volatile elements between solids and gas in the early solar system. Elemental fractionation of volatile elements may be attributed to incomplete condensation of volatiles into solids due to dispersal of disk gas. In order to discuss incomplete condensation of volatiles, it is of much importance to understand kinetics of volatile condensation, i.e., sulfidation kinetics of metallic iron in case of sulfur. I will report results on kinetics of nucleation and growth of iron sulfide on Fe metal, and discuss its effects on cosmochemical fractionation.

Keywords: iron sulfide, metal, kinetics, protoplanetary disk