

## Examination of the evolution trend of the Matsuura basalts using MELTS

# Reiko Makiyama[1], Takeru Yanagi[2]

[1] Earth and Planetary Sci., Kyushu Univ., [2] Earth and Planetary Sci., Kyushu Univ

The Matsuura basalts in northwest Kyushu, Japan, represent the magma compositions from primitive to evolved with a wide variation in MgO from 11.6 wt.% to 2.9 wt.%. Yanagi and Maeda (1998) attributed their evolution to open system fractionation operative in a refilled magma chamber near the crust mantle boundary. The purpose of this study is to examine whether it can reproduce this magma evolution trend using the MELTS algorithm. The parental magma composition is based on Kushiro (1996), the pressure is 8 kbar as suggested by Yanagi and Maeda (1998) and oxygen fugacity is FMQ + 1. The results suggest that the same variation in  $Al_2O_3/CaO$  v.s. MgO,  $Al_2O_3$  v.s. MgO and  $SiO_2$  v.s. MgO diagrams are reproducible at this pressure under hydrous conditions.