



AWSFL008-DS3

**NSF Award Abstract**  
**- #0305755**

**Melt Inclusions in Izu Arc Lavas: Examining  
Slab-Derived Contributions to  
Intra-Oceanic Arc Magmas and the Role of  
Volatiles in the Subduction Factory**

**NSF Org** OCE

**Latest Amendment Date** July 7, 2003

**Award Number** 0305755

**Award Instrument** Standard Grant

**Program Manager** Rodey Batiza

OCE DIVISION OF OCEAN  
SCIENCES  
GEO DIRECTORATE FOR  
GEOSCIENCES

**Start Date** July 1, 2003

**Expires** June 30, 2006 (Estimated)

**Expected Total Amount** \$137856 (Estimated)

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**NSF Program** 1620 MARINE GEOLOGY AND  
GEOPHYSICS

**Field Application 0204000 Oceanography  
Program Reference Code 0000,OTHR,**

## **Abstract**

Via a Japanese, American, and European collaboration, this study will analyze major, trace and volatile elements (H<sub>2</sub>O, CO<sub>2</sub>, S, Cl, F) and B and H isotopic composition in melt inclusions and lavas from the Izu arc using petrographic, electron microprobe, ion microprobe and laser-ablation ICP-MS techniques. Melt inclusions will provide primary constraints on the major, trace and volatile element contents and boron and hydrogen isotope compositions of primitive Izu arc melts, and this data will test and constrain geochemical, petrological, geophysical and thermal models for subduction in this region, one of the MARGINS program selected study areas, and elsewhere.

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