

## **Petrology and geochemistry of java volcanoes, indonesia: a key for understanding the lithospheric interior beneath western sunda arc**

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Phenocryst assemblage, Sr isotopic,  $K_2O$  and Nb concentration data from 28 Quaternary Java Volcanoes were collected. The distinct lateral variations in the abundances of Sr isotopic ratios,  $K_2O$  and Nb are observed along the Java but only rough lateral variation across the Java. Based on phenocryst appearance, Java Volcanoes can be divided into 3 groups, which are: Muria group (biotite), Tangkuban Prahur group (amphibole and pyroxene) and Papandayan group (pyroxene) which show inter fingering relation. From Krakatoa to Lamongan (West to East);  $K_2O$  and Nb contents increase gradually. Whereas, Sr isotopic ratios decrease along the Java Arc, except: Papandayan and Merapi Volcanoes. On the other hand there is only rough and no across arc variation for Sr isotopic ratios,  $K_2O$  and Nb contents. Lateral and across arc variation of phenocryst assemblage, Sr isotopic,  $K_2O$  and Nb concentration from Java possibly related to crustal thickness and composition, condition of magma's pathway (conduit) and also segmentation of subducted slab, creating condition that promote different degree of magma differentiation.