APPLICATIONS OF 3D VISUALIZATION TECHNIQUE TO PETROLOGY—AN EXAMPLE OF MAGMA MINGLED ROCK

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3D visualization techniques have already been used for several kinds of scientific problems. We attempted to apply the 3D method to interpret real rock textures using the visualization software, AVS. The specimens, which were collected from the Hida metamorphic belt, central Japan, are the composite dike that had intruded the surrounding biotite gneiss and had been subjected to the later stage metamorphism. The composite dike that consists of melanocratic part (amphibolite), leucocratic part (metatonalite) and intermediate (metadiorine) part suggests the mingling texture of mafic and felsic magmas. Each specimen used for 3D observations was cut off as about 10 cm cube. The volume images were synthesized from the section images of photos that were taken at every 1 mm thickness by shaving and polishing. The data for AVS were converted from the scanned images. A volume image of the leucocratic part is shown in Figure 1. The contact relations of melanocratic and leucocratic part have been clearly illustrated in the volume image.