

# Internal structures and inclusions of quartz crystals of granitic pegmatites from Masutomi, Kofu, Yamanashi, central Japan.

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The growth histories of quartz crystals in granitic pegmatites from Masutomi, Kofu, central Japan, were studied by the texture of the oriented wafers and heating experiments of inclusions.

The dynamic changes from the mosaic texture to the crystal druse through the graphic textures are found with the observation of the oriented wafers of a single quartz crystal. By observation of the anisotropy of quartz crystals in a series of wafers with the universal stage, the group of quartz crystals that show the same extinction are found. This shows the quartz crystal that distributes in the mosaic texture play a role as a nucleus of the single quartz crystal in druse.

Silicate melt inclusions are found in quartz crystals of the granitic pegmatites. From the presence of liquid phase in them, they are classified into crystalline inclusion and aqueous inclusion. The crystalline inclusion distributes in the mosaic and graphic texture, and the aqueous inclusion distributes only in the base of a single quartz crystal. By the heating experiment these inclusions show the various thermal characters. The solids in the crystalline inclusions begin to melt at 750 degrees and over. On the other hand, the solids in the aqueous inclusions begin to melt at 650-700 degrees. The fact indicates that the relative water content in the system of granite have been increased with the growth of the pegmatite.

The changes of the pegmatitic environments are classified into four stages. 1) silicate melt environments forming mosaic texture. 2) silicate melt environments forming the graphic textures. 3) hydrothermal environments forming the crystal druses. 4) hydrothermal process with alteration. 4th stage will not relate to the growth of the pegmatite because of the distribution and the homogenized temperature (290-300 degrees) by the heating experiments of the fluid inclusions in the quartz crystals.