

Christchurch, New Zealand, the samples are believed to be magma mush, a portion of the magma chamber that is in a semi-solid state.

Four of the samples contained a texture called granophyric intergrowth. Granophyre is defined as “fine-grained intergrowths, ranging from submicroscopic to millimeter scale, of quartz and alkali feldspar” (Barker, 1970). My summer research focuses on understanding the thermodynamic conditio

Granophyre is an intriguing texture under the optical microscope (Fig. 1A). Several extinction domains can be observed, where the minerals are in optical continuity with the phenocryst (larger crystal) they nucleated from. Chemical composition data revealed the intergrowth is composed of SiO_2 (quartz) and $(\text{K,Na})\text{AlSi}_3\text{O}_8$ (alkali feldspar) where the K and Na proportions are on average 50-50. However, some areas revealed stains with high Na contents (Fig. 1B).

Granophyric intergrowth forms due to the degree of undercooling (T) T

