Origin Of Moghanlu's Granite, N.W. Of Iran

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Moghanlu's granite (Northwest of Iran) has surrounded a suite of high grade metamorphic rocks as a ring. The main part of these metamorphic rocks is composed of augen gneisses which has been homogeneously metamorphosed from center to rim.The augen gneisses show a augen texture and are mainly composed of quartz, alkali feldspar, plagioclase and biotite, and they are free from any metamorphic minerals (e.g. andalusite, sillimanite, ect.).The granites which have a sharp boundary with the central metamorphic rocks, show a coarse grain granular texture and composed of quartz (30%), alkali feldspar- mainly perthite-(42%), plagioclase (20%), and some zircon and apatite, containing numerous enclaves of orthogneisses.Although no field evidences for gradual changes between these granites and gneisses has been observed, but the mineralogical data and petrological investigations suggest that granites and the orthogneisses enclaves are genetically related. The granites to be likely derived by melting of the gneisses, that may occur at depth in the base of the gneisses.