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摘要:

采用 R_f/ϕ 法对姑婆山-花山花岗岩基及其热接触变质围岩进行了系统的应变测量, 共测量了153个三维有标志体。结果表明: (1) 姑婆山-花山花岗岩基热接触变质围岩和早期侵位的牛庙、杨梅山独立侵入体及里松和望高单元则为拉长型应变。(2) 姑婆山-花山花岗岩基的平均应变强度和平均压缩率均小于热接触变质围岩, 且岩基内从早期单元到晚期单元(除新路单元外)平均应变强度和平均压缩率均逐渐减小; 热接触变质围岩面方向递增, 存在较明显的应变强度梯度和压缩率梯度。另外岩基南侧以碳酸盐岩为主的热接触变质围岩的压缩率。 (3) 姑婆山-花山花岗岩基应变型式表现为近接触变质围岩及各花岗岩单元边部的应变椭圆长轴多与接触界线多呈大角度相交; 各单元中部的应变椭圆展布则比较凌乱、定向性不明显。上述特征表明, 姑婆山-花山岩体及其围岩内产生较强的应变叠加, 而岩浆内部的主动侵位动力应是造成岩体及其热接触变质围岩变形的过程中, 岩体内早期单元及其围岩主要遭受的是径向挤压作用。

关键词: [应变测量](#) [应变标志体](#) [应变特征](#) [花岗岩体](#) [姑婆山-花山](#)

Systematic strain measurement of analysis of Mesozoic Guposhan-Huashan granitic batholith contact metamorphic zone, western Nanling [Download Fulltext](#)

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Abstract:

A systematic finite strain measurement and analysis with R_f/ϕ method has been conducted through granitic batholith and its thermal contact metamorphic country rocks, for totally a number of 153 field stations. The results show that: (1) The country rocks and early emplaced intrusions and in and Yangmeishan intrusions, and Lisong and Wanggao units are dominantly characterized by flattened and elongated Xinlu unit by constrictional strain; (2) The mean strain intensities and compression rates are higher than that of the country rocks. The older intrusions and intrusive units show higher mean strain intensities and compression rates than the younger ones. There clearly exists a strain intensity gradient and compression rate gradient toward the contact surface so that both strain intensity and compression rate increase toward the contact surface. The country rocks of dominantly carbonates on the south side of the batholith show higher compression rates than those of mainly clastic rocks on its north side; and (3) Within the country rocks, strain ellipsoids measured next to the batholith contact are mostly parallel to the contact surface. Ellipsoids measured next to each intrusive contact within each intrusive unit are also apparently parallel to the contact surface. Their short strain axes mostly make near right angle with the contacts. In contrast, the central area of each intrusive unit show no preferred orientation but a random order. It is suggested that the characteristics and strain patterns were result of repeated strain superposition due to multiple magma pulses, and that the prolonged, repeated deformation of the country rocks and the early intrusive units was controlled by the internal force. Obviously the deformation was achieved by means of radial compression (or push) as a result of magma ascent and emplacement.

Keywords: [strain measurement](#) [strain markers](#) [strain characteristics](#) [granite](#) [Guposhan-Huashan](#)

相关附件: [图6 望高单元付林图解](#) [图7 姑婆山-花山花岗岩体热接触变质围岩付林图解](#) [图8 姑婆山岩体及其围岩代表性应变剖面](#) [图10 姑婆山-花山岩体岩基及围岩应变椭圆平面型式图](#) [图11 姑婆山-花山岩体](#)