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Note generali	The chapters ... represent an extensive review ... by the invited speakers at a two-day short course on Minerals, Inclusions and Volcanic Processes held prior to the annual fall American Geophysical Union Meeting in San Francisco, California (December 13-14, 2008) ... in conjunction with an AGU-sponsored topical session at the subsequent ... meeting"--Page [iii].
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction to minerals, inclusions and volcanic processes / Keith D. Putirka -- Experimental studies of the kinetics and energetics of magma crystallization / Julia E. Hammer -- Thermometers and barometers for volcanic systems / Keith D. Patirka -- Thermometers and thermobarometers in granitic systems / J. Lawford Anderson ... [et al.] -- Fluid inclusion thermobarometry as a tracer for magmatic processes / Thor H. Hansteen, Andreas Klugel -- Petrologic reconstruction of magmatic system variables and processes / Jon Blundy, Kathy Cashman -- Magma ascent rates / Malcolm J. Rutherford -- Melt inclusions in basaltic and related volcanic rocks / Adam J.R. Kent -- Interpreting HO and CO contents in melt inclusions : constraints from solubility experiments and modeling / Gordon Moore -- Volatile abundances in basaltic magmas and their degassing paths tracked by melt inclusions / Nicole Metrich, Paul J. Wallace -- Inter- and intracrystalline isotopic disequilibria : techniques and applications

/ Frank C. Ramos, Frank J. Tepley III -- Oxygen Isotopes in mantle and crustal magmas as revealed by single crystal analysis / Ilya Bindeman -- Uranium-series crystal ages / Kari M. Cooper, Mary R. Reid -- Time scales of magmatic processes from modeling the zoning patterns of crystals / Fidel Costa, Ralf Dohmen, Sumit Chakraborty -- Mineral textures and zoning as evidence for open system process / Martin J. Streck -- Decryption of igneous rock textures : crystal size distribution tools / Pietro Armienti -- Deciphering magma chamber dynamics from styles of compositional zoning in large silicic ash flow sheets / Olivier Bachmann, George W. Bergantz.

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Sommario/riassunto

Volume 69 of Reviews in Mineralogy and Geochemistry covers the fundamental issues of volcanology: At what depths are eruptions triggered, and over what time scales? Where and why do magmas coalesce before ascent? If magmas stagnate for thousands of years, what forces are responsible for initiating final ascent, or the degassing processes that accelerate upward motion? To the extent that we can answer these questions, we move towards formulating tests of mechanistic models of volcanic eruptions (e.g., Wilson, 1980; Slezin, 2003; Scandone et al., 2007), and hypotheses of the tectonic controls on magma transport (e.g., ten Brink and Brocher, 1987; Takada, 1994; Putirka and Busby, 2007). Our goal, in part, is to review how minerals can be used to understand volcanic systems and the processes that shape them; we also hope that this work will spur new and integrated studies of volcanic systems.

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