

V11H. Mineralogical Signals as Keys to Understanding Petrological Processes I

- 8:00 AM - 8:15 AM V11H-01. Olivine as a key to unlocking Kilauea's magmatic history
(Invited)
Michael O. Garcia; Marc D. Norman
- 8:00 AM - 10:00 AM; Rooms 2022-2024
- 8:15 AM - 8:30 AM V11H-02. Diffusive Re-equilibration of Volatiles and Oxygen Fugacity in Olivine-Hosted Melt Inclusions: Experiments and Numerical Models
Claire E. Bucholz; Glenn A. Gaetani; Mark D. Behn
- 8:30 AM - 8:45 AM V11H-03. Trace element composition of olivine – implications for the evolution of the olivine gabbro-troctolite-hosted Voisey's Bay Ni-Cu-Co sulfide deposit, Labrador
Florian Bulle; Graham D. Layne
- 8:45 AM - 9:00 AM V11H-04. Minerals as mantle fingerprints: Sr-Nd-Pb-Hf in clinopyroxene and He in olivine distinguish an unusual ancient mantle lithosphere beneath the East African Rift System
Wendy R. Nelson; Steven B. Shirey; David W. Graham
- 9:00 AM - 9:15 AM V11H-05. OLIVINES FROM KIMBERLITES AND DIAMONDS: PROBLEM OF ORIGIN
Nikolai V. Sobolev; Alexander V. Sobolev; Anatoly A. Tomilenko; S. V. Kovyazin; D. V. Kuzmin
- 9:15 AM - 9:30 AM V11H-06. Diamonds Discovered in Five Peridotite Massifs Along the Yarlung-Zangbo Suture in South Tibet: Tectonic Implications
Xiangzhen Xu; Jingsui Yang; Dengzhu Ba; Yuan Li; Liu Zhao; Paul T. Robinson
- 9:30 AM - 9:45 AM V11H-07. Origin of Zircon in Ophiolitic Mantle Rocks
Paul T. Robinson; Jingsui Yang; Axel K. Schmitt; Jianwei Li; Changqian Ma

9:45 AM - 10:00 AM V11H-08. Zircon Saturation Re-Revisited
Patrick Boehnke; Dustin Trail; Axel K. Schmitt; E B. Watson; Mark Harrison

V13G. Mineralogical Signals as Keys to Understanding Petrological Processes III

- 1:40 PM - 1:55 PM V13G-01. Prograde P-T paths: How steep, how fast, and what they mean (*Invited*)
Frank S. Spear
- 1:40 PM - 3:40 PM; Room 2020
- 1:55 PM - 2:10 PM V13G-02. Linking rare earth element zoning in major and accessory minerals to better understand metasedimentary migmatites
Jessica A. Matthews; Nigel M. Kelly; Alan Koenig; Simon L. Harley
- 2:10 PM - 2:25 PM V13G-03. Petrologic Applications of Tourmaline
David London; George B. Morgan VI; Michael B. Wolf; Brandon M. Guttery
- 2:25 PM - 2:40 PM V13G-04. Tourmaline: A Powerful Mineral Monitor for Metamorphic Rocks
Barbara L. Dutrow; Darrell Henry
- 2:40 PM - 2:55 PM V13G-05. Utilizing Major Element and Age Zoning in Garnet as a Tool for Evaluating the Scale of Equilibrium in Metamorphic Rocks
Matthew P. Gatewood; Besim Dragovic; Harold H. Stowell; Ethan F. Baxter; Dave Hirsch; Rose Bloom
- 2:55 PM - 3:10 PM V13G-06. Thermodynamic Properties of Rock-Forming Garnets: How Well Known are They?
Charles A. Geiger; Edgar Dachs
- 3:10 PM - 3:25 PM V13G-07. Thermodynamic Mixing Behavior Of F-OH Apatite Crystalline Solutions
Guy L. Hovis

3:25 PM - 3:40 PM

V13G-08. The Molar Volume of FeO-MgO-Fe₂O₃-Cr₂O₃-Al₂O₃-TiO₂ Spinels

Emily A. Hamecher; Paula M. Antoshechkina; Mark S. Ghiorso; Paul D. Asimow

V11A. Mineralogical Signals as Keys to Understanding Petrological Processes II Posters

8:00 AM - 12:20 PM; Halls A-C

V11A-2484. A New Internally Consistent Thermodynamic Model for Calculating Hornblende-Bearing Phase Equilibria With Rhyolite-MELTS

Colin E. Brooks; Mark S. Ghiorso; Guilherme A. Gualda

V11A-2485. Three textural types of amphibole in amphibolites from the Lüliang Complex in the Trans-North China Orogen and their tectonic implications

Guochun Zhao

V11A-2486. A Method for Estimating the Activity of Titania in Magmatic Liquids From the Compositions of Coexisting Rhombohedral and Cubic Iron-Titanium Oxides

Mark S. Ghiorso; Guilherme A. Gualda

V11A-2487. An experimental study on the transformation kinetics of spinel lherzolite to garnet lherzolite

Maiko Nagayoshi; Tomoaki Kubo; Takumi Kato

V11A-2488. Compositional Variation of Terrestrial Mantle Apatites and Implications for the Halogen and Water Budgets of the Terrestrial Mantle

Michael Roden; Alberto E. Patino Douce; Jeff B. Chaumba; Chris Fleisher; Gene M. Yogodzinski

V11A-2489. Application of Ti-in-quartz solubility as a thermobarometer in rutile-free rocks

Jay B. Thomas; E B. Watson

V11A-2490. 3D imaging of glass inclusions in quartz using propagation phase-contrast x-ray tomography: Application to the Bishop Tuff (California, USA)

Ayla S. Pamukcu; Guilherme A. Gualda; Mark L. Rivers; Alfred T. Anderson

V11A-2491. Evolution of Morphology and Crystallinity of Silica Minerals Under Hydrothermal Conditions

Hiroshi Isobe

V11A-2492. Elemental Characteristics of Australian Sedimentary Opals and their Implications for Opal Formation and Gemstone Fingerprinting

Adriana Dutkiewicz; Thomas C. Landgrebe; Patrice F. Rey

V11A-2493. Chemistry of titanite (sphene) in ocean crust: A tool for understanding late-stage igneous and metasomatic processes at mid-ocean ridges

Lauren E. Colwell; Barbara E. John; Michael J. Cheadle; Joseph L. Wooden

V11A-2494. Storage of Nitrogen in the Cyclosilicates Beryl and Cordierite: Nitrogen Cycling, Isotope Fractionation, and Fluid-Rock Interactions

Kristin E. Lazzeri; Gray E. Bebout; Bruce D. Idleman; Charles A. Geiger; Long Li

V11A-2495. Dy/Dy*; a tool for resolving petrogenetic processes from REE data

Jon P. Davidson; *Simon Turner; Terry Plank* V11A-2496. Post-collisional magma systematism after exhumation of UHPM terrane in the North Qaidam UHPM belt, NW China

V11A-2496. Post-collisional magma systematism after exhumation of UHPM terrane in the North Qaidam UHPM belt, NW China

Meng-jue Wang; *Shuguang Song*

Meng-jue Wang; *Shuguang Song*

V11A-2497. Late-stage magmatic processes at Albano Maar, Colli Albani, Italy: insights from FTIR analysis of leucites

Joanna K. Cross; *Julie Roberge; Victoria Smith; Guido Giordano; Emma Tomlinson; Martin A. Menzies*

V11A-2498. High Temperature Metamorphism In The Conductive Boundary Layer Of An Intrusion Of Rhyolite Magma In The Krafla Geothermal System, Iceland

Peter Schiffman; *Robert A. Zierenberg; Gudmundur O. Fridleifsson; Wilfred A. Elders; Anette K. Mortensen*

V11A-2499. Low Pressure Origin of High-Silica Rhyolites

Guilherme A. Gualda; *Mark S. Ghiorso*

V11A-2500. Two-stage partial melting and contrasting cooling histories within the Higher Himalayan Crystalline Sequence in the far-eastern Nepal

Takeshi Imayama; *Toru Takeshita; Yi Keewook*

V11A-2501. Sierran affinity (?) metasedimentary rocks beneath the Coast Range Ophiolite of the Sierra Azul block east of the San Andreas fault, Santa Clara County, CA

Robert J. McLaughlin; *Trevor A. Dumitru; W G. Ernst*

V11A-2502. Evolution of the Sanbagawa and Shimanto high-pressure belts in SW Japan

Tetsumaru Itaya; *Juhn G. Liou*

V11A-2503. Deformation Induced Dissolution-Creep in the Ductile Lishan Fault Zone, Taiwan

Martha Stokes; *Robert P. Wintsch; Michael J. Kunk; David L. Bish*

V11A-2504. Mineralogy of Faults in the San Andreas System That are Characterized by Creep

Diane E. Moore; *Michael J. Rymer; Robert J. McLaughlin; James J. Lienkaemper*

V11A-2505. Discussion of Continental Rifts and Their Structure

M C. Gilbert

V11A-2506. A New Type of Kelyphite Produced by Isochemical Breakdown of Garnet, Discovered from the Czech Moldanubian Zone

Masaaki Obata; *Kazuhito Ozawa; Kosuke Naemura; Tadamasu Ueda*

V11A-2507. Applying Rb/Sr isochron geochronology on phengite included in garnet: a case study on the meta-sediments of the Zermatt-Saas Fee ophiolite (Western Alps).

Caroline M. de Meyer; *Lukas Baumgartner; Clark Johnson; Brian L. Beard; Susanne E. Skora*

V11A-2508. Zircon Messengers Reveal the Age and History of Great Basin Crust, Kern Mountains, Nevada

Eric S. Gottlieb; Elizabeth L. Miller; Joseph L. Wooden

V11A-2509. Deciphering tectonic provenance signatures from the trace element geochemistry of igneous zircon

Craig B. Grimes; Joseph L. Wooden; Jorge A. Vazquez

V11A-2510. Low $\delta^{18}\text{O}$ zircons from the Bruneau-Jarbridge eruptive center: a key to crustal anatexis along the track of the Yellowstone hotspot

Henrietta E. Cathey; Barbara P. Nash; Angela N. Seligman; John W. Valley; Noriko Kita; Charlotte M. Allen; Ian H. Campbell; Jorge A. Vazquez; Joseph L. Wooden

V11A-2511. Ce Speciation in Silicate Melts: Application to Ce-in-Zircon Oxybarometry

Duane J. Smythe; James M. Brenan

V11A-2512. Experimentally-derived Ca-Na partitioning between plagioclase and clinopyroxene: a new geobarometer for mantle rocks

Patrizia Fumagalli; Giulio Borghini; Elisabetta Rampono

V11A-2513. Double trouble: EBSD reveals growth twins correlated with anhedral plagioclase morphologies

Carrie R. Brugger; Julia E. Hammer

V11A-2514. Internal crystallography and thermal history of natural gold alloys

Robert Hough

V11A-2516. Rare Earth Element - SiO₂ systematics of island arc lower crust amphibolite migmatite from Yakuno Ophiolite, SW Japan: a field evaluation of some model predictions

Xiaofei Pu; James G. Brophy; Tatsuki Tsujimori