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EUROPEAN CONFERENCE ON MINERALOGY AND SPECTROSCOPY

SEPTEMBER
09-11, 2015
R O M E

8th European Conference on Mineralogy and Spectroscopy
September 9-11, 2015
Rome, Italy

PROGRAMME



Fluorite: crystal aggregate displayed at the Mineralogy Museum, Sapienza University of Rome

SEPTEMBER 8, 2015 – MUSEO DI MINERALOGIA, SAPIENZA UNIVERSITÀ DI ROMA

16.00-18.00 – Participant registration

17.00-19.00 – Icebreaker party, visit to Mineralogy Museum

SEPTEMBER 9, 2015 – AULA CONVEGNI, CNR

08.15-09.00 – Participant registration

09.00-09.30 – Opening

Convener: U. Hålenius

09.30-10.00 – Keynote lecture: Short-range order in rock-forming and accessory minerals: a review of the present state of affairs and some suggestions as to what to do next – *F.C. Hawthorne*

10.00-10.15 – Shannon information and configurational entropy of crystalline solids – *S.V. Krivovichev*

10.15-10.30 – Order-disorder phase transitions in the minerals with antiperovskite structures – *M.S. Avdontceva*

10.30-10.45 – Combining structure refinement and spectroscopies: hints and warnings for more efficient tools to decipher the mechanisms of deprotonation in amphiboles – *R. Oberti*

10.45-11.00 – Crystal chemistry of amphiboles by Raman spectroscopy – *B. Mihailova*

11.00-11.30 – Coffee break

Convener: M. Koch-Müller

11.30-11.45 – Reapproval of betalomonosovite as a valid mineral species: single-crystal X-ray diffraction, HRTEM, Raman and IR spectroscopy – *E. Sokolova*

11.45-12.00 – “Chlorellestadite” $\text{Ca}_5(\text{SiO}_4)_{1.5}(\text{SO}_4)_{1.5}\text{Cl}$, a potentially new mineral of the apatite supergroup from the Shadil Khokh volcano, Kel’sky Plateau, Southern Ossetia – *D. Šrodek*

12.00-12.15 – Raman investigation of new and potentially new minerals of nabimusaite supergroup – *M. Dulski*

12.15-12.30 – Perettiite-(Y), $\text{Y}^{3+}_2\text{Mn}^{2+}_4\text{F}^{\text{e}2+}[\text{Si}_2\text{B}_8\text{O}_{24}]$, a new mineral from Momeik, Myanmar – *R.M. Danisi*

12.30-12.45 – Tourmaline from the eclogite hosting gneisses in the Tso Moriri UHP metamorphic terrane (Ladakh, India): characteristics and evolution – *I. Broska*

12.45-13.00 – Bosiite, a new member of the tourmaline supergroup – *A. Ertl*

13.00-14.30 – Lunch break

Convener: D. Bersani

14.30-15.00 – Keynote lecture: Structural control of the color of minerals and glasses using spectroscopic tools – *L. Galois*

15.00-15.15 – The origin of colour of red beryl by LIBS analyses – *G. Tempesta*

15.15-15.30 – Ni-Ti co-doped hibonite ceramic pigments by combustion synthesis: crystal structure and optical properties – *M. Ardit*

15.30-15.45 – Precious opals from the Raduzhnoe deposit (Russia): mineralogy, geochemistry – *V.B. Tishkina*

15.45-16.00 – High-temperature crystal chemistry of astrophyllite from Kola peninsula, Russia – *E.S. Zhitova*

16.00-16.15 – Raman spectroscopy and the inversion degree of natural Cr-bearing spinels – *D. Lenaz*

16.15-16.45 – Coffee break**16.45-18.00 – Poster session 1**

SEPTEMBER 10, 2015 – AULA CONVEGNI, CNR**Convener: R. Oberti**

09.30-10.00 – Keynote lecture: Empirical electronic polarizabilities in oxides, hydroxides, oxyfluorides and oxychlorides – *R.D. Shannon*

10.00-10.15 – Diffusion of redox-variable elements in minerals: the example of Cr diffusion in pure forsterite and natural olivine – *H.St.C. O'Neill*

10.15-10.30 – Multicomponent solid solutions in secondary oxyminerals from a polymetallic deposit in the Sudetes, Poland – *J. Ciesielczuk*

10.30-10.45 – As⁵⁺ incorporation into rhomboclase and its dehydration product (H₃O)Fe(SO₄)₂ - An EXAFS study – *R.M. Bolanz*

10.45-11.00 – Crystal chemistry of Si-deficient B-bearing vesuvianite forming epitaxial intergrowths on wiluite – *T.L. Panikorovskii*

11.00-11.30 – Coffee break**Convener: F. Di Benedetto**

11.30-11.45 – Mixed uranyl sulfato-selenates: variable composition and crystal structures – *V.V. Gurzhii*

11.45-12.00 – Expanding knowledge on crystal chemistry of uranyl sulfate minerals – *J. Plášil*

12.00-12.15 – Photoluminescence spectroscopy: a tool for revealing stress caused by self-irradiation damage – *L. Nasdala*

12.15-12.30 – Turquoise zircon: new diffraction and optical data – an overview of V⁴⁺ crystal chemistry and optical spectroscopy in minerals – *M. Dondi*

12.30-12.45 – Electron-beam irradiation of zircon: A discussion of spectroscopic phenomena – *T. Váczi*

12.45-13.00 – Diffusion of hydrogen in zircon – *J. Ingrin*

13.00-14.30 – Lunch break**Convener: H. Skogby**

14.30-15.00 – Keynote lecture: FTIR spectroscopy at HT: applications and problems – *G. Della Ventura*

15.00-15.15 – FTIR spectroscopy of minerals with complex H-bonds network – *F. Bellatreccia*

15.15-15.30 – Hydrogen bonding in mineral-related M_{2-x}M₁₂(OH)₆(HXO₄)₂(H_{2x/3}XO₄)₆ compounds: synergy of X-ray diffraction and infrared spectroscopy – *T. Đorđević*

15.30-15.45 – The temperature and oxygen fugacity dependence of hydroxyl incorporation in San Carlos olivine: an experimental and infrared study – *P.M.E. Tollan*

15.45-16.00 – New tool for water calculation in Martian fluorapatite: a combined synchrotron FTIR, Raman spectroscopy, EMPA and TEM study – *M. Koch-Müller*

16.00-16.15 – Clinopyroxenes from Pico Volcano (Azores Island, Portugal): crystal chemistry and water content – *S. Nazzareni*

16.15-16.45 – Coffee break**16.45-18.00 – Poster session 2**

SEPTEMBER 11, 2015 – AULA CONVEGNI, CNR**Convener: S. Speziale**

009.30-10.00 – Keynote lecture: DFT-based calculations for the interpretation of mineral spectra – *B. Winkler*

10.00-10.15 – Chemical bonding and radiation stability of monazite-structure orthophosphates: ab initio and spectroscopy studies – *Y.V. Shchapova*

10.15-10.30 – Electronic high-spin to low-spin transition in siderite at high pressure and temperature – *J. Müller*

10.30-10.45 – A combined micro-Raman spectroscopy and single-crystal X-ray diffraction approach: an example on natural and synthetic garnets – *M. Alvaro*

10.45-11.00 – Cation Order-Disorder Behavior in Silicate Garnet Solid Solutions – *C.A. Geiger*

11.00-11.30 – Coffee break**Convener: M. Dondi**

11.30-11.45 – Structure of iron- and cobalt-doped ZnO as anode material for Li-ion batteries – *G. Giuli*

11.45-12.00 – Physico-chemical properties of quartz from industrial manufacturing and its cytotoxic effects on alveolar macrophages: the case of green sand mould casting for iron production – *F. Di Benedetto*

12.00-12.15 – Study of the asbestos bodies and chemical-physical modification of mineral fibres in rat histological tissues using electron microscopy and micro-Raman – *N. Bursi Gandolfi*

12.15-12.30 – Exploiting XPS for clarifying toxicity of mineral fibers – *M. Fantauzzi*

12.30-12.45 – Minerals of the bowieite–kashinite series from the Svetly Bor complex, Urals, Russia, and comparison with worldwide occurrences – *F. Zaccarini*

12.45-13.00 – Characterization of structure and growth of electrodeposited Cu-S ultra-thin films – *A. Giaccherini*

13.00-14.30 – Lunch break**Convener: G. Cruciani**

14.30-15.00 – Keynote lecture: Magnetism meets Mössbauer spectroscopy and the stories they tell – *C. McCammon*

15.00-15.15 – Iron meteorites and their weathering products: Mössbauer spectroscopy with a high velocity resolution of the iron-bearing minerals – *M.I. Oshtrakh*

15.15-15.30 – Spectroscopic study of Chelyabinsk LL5 meteorite: structural peculiarities of iron-bearing minerals in different fragments – *A.A. Maksimova*

15.30-15.45 – ^{23}Na nuclear magnetic resonance (NMR) spectroscopic study of loparite-(Ce) – *E.A. Popova*

15.45-16.00 – Crystal chemistry of “ $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ ” garnet doped with Al, Ga, and Fe: a review of NMR and Mössbauer spectroscopy studies – *G. Amthauer*

16.00-16.15 – Combined Mössbauer and X-ray photoelectron spectroscopy approach for identification of metal substitution into nearly-amorphous secondary iron oxides emerging from advanced technologies of water treatment (iron nanoparticles/ferratesIV,V,VI) – *J. Filip*

16.15-16.30 – ECMS 1988-2015: an overview of mineral spectroscopy in the last 30 years – *G. Calas*

16.30-16.40 – ECMS 2015: a summary and beyond**16.40-17.00 – Coffee and closing**

Poster session 1

SEPTEMBER 9, 2015 – POSTER ROOM, CNR

16.45-18.00

Spectroscopic and diffractometric study of dye molecules confined in zeolite L channels: towards an effective transport of electronic excitation energy – *S. Quartieri*

Fast on-site identification of minerals by using portable Raman equipment in gemmological trade contexts and in collectors exhibitions – *G. Barone*

Characterization of plagioclase solid solution by Raman spectroscopy: a procedure for the determination of the chemical composition – *D. Bersani*

EPR and XRD study of Co-bearing natural spinel from Vietnam – *F. Di Benedetto*

EPR study of quartz from the Peschanka porphyry Cu–Au–Mo deposit, Russia – *A.D. Semina*

Precipitates around thermal springs in the catchment of the Rio Colca, Peru – *J. Ciesielczuk*

Geology and occurrence of Ti deposits in Hadong, Korea – *J. Choi*

Structural disorder in narsarsukite from Murun (Russia) – *E. Mesto*

Structural complexity and polymorphism in borates – *O.S. Tyumentseva*

Concentration self-quenching effect of Er^{3+} in mixed-framework barium rare-earth sorosilicates – *M. Wierzbicka-Wieczorek*

Structural complexity and thermal expansion of Ba silicates – *L.A. Gorelova*

Crystal structure of synthetic Ga, Fe-bearing tourmaline: SREF, EMPA and MS – *O.S. Vereshchagin*

Ti-rich garnets: an EPMA, SIMS, Mössbauer, XRPD and SCXRD investigation – *M. Lacalamita*

Low temperature single crystal X-ray diffraction study of quintinite-1M, a natural layered double hydroxide (LDHs) – *E.S. Zhitova*

The crystal structure of girvasite, $\text{NaCa}_2\text{Mg}_3(\text{PO}_4)_3(\text{CO}_3)(\text{H}_2\text{O})_6$, a complex phosphate carbonate hydrate based upon electroneutral heteropolyhedral layers – *A.P. Chernyatieva*

Ti-bearing dalyite from the charoite rocks (Murun massif, Russia): single-crystal structure refinement – *A.A. Zolotarev*

Determination of structure of highly carbonized organic matter using Raman spectroscopy in comparison with the HRTEM, SAXS and XRD data – *Y.A. Golubev*

The effect of Er:YAG dental laser treatment with low energy on the human tooth apatite studied by Raman and IR reflection micro-spectroscopy – *D. Vasilev*

HT-FTIR spectroscopy of riebeckite – *U. Susta*

Synthesis and crystal-chemistry of amphiboles along the join richterite - ferrorichterite: a combined spectroscopic (FTIR, Mössbauer), X-ray and microchemical study – *G. Della Ventura*

Incorporation of BO_3 groups in dry olivine – *U. Hålenius*

Crystal chemistry and optical spectroscopy of Co_3TeO_6 and $(\text{Co,Zn})_3\text{TeO}_6$ solid solutions – *M. Wildner*

Structural refinement, crystal chemistry and optical spectra of Co-doped synthetic diopside – *C. Gori*

Diffraction and spectroscopic characterization of jeffbenite: a high-pressure marker in diamonds – *C. Anzolini*

Poster session 2

SEPTEMBER 10, 2015 – POSTER ROOM, CNR

16.45-18.00

Raman study of $\text{MgAl}_2\text{O}_4\text{-FeAl}_2\text{O}_4$ and $\text{MgAl}_2\text{O}_4\text{-MgFe}_2\text{O}_4$ spinel solid solutions – *V. D'Ippolito*

Raman Spectroscopy as a tool for magnesium estimation in Mg-calcite – *L. Borromeo*

Potentiality of micro-Raman Spectroscopy for the identification of unclassified minerals preserved in old Museum collections – *G. Barone*

A spectroscopic study of volcanic ashes from Mt. Etna, Catania (Italy) – *F. Di Benedetto*

High pressure Raman spectroscopy on Ca-clinopyroxenes – *D. Bersani*

Polarized IR and Raman spectra of the OH-dipole in zoisite – *F.A. Weis*

A spectroscopic investigation of pyrite nanoparticles for energy conversion and storage – *G. Montegrossi*

Use of natural clays as sorbent materials for rare earth ions recovery from weed – *E. Schingaro*

Identification by micro-Raman spectroscopy of iron-rich mineral particles lying on the surface of erionite fibers from Rome (Oregon – USA) and from Karlik (Cappadocia – Turkey) – *C. Rinaudo*

Health effects of crystalline silica: a methodological approach to the study of industrially processed materials – *M. Romanelli*

Bacterial, viral and protein substance influence on the formation of renal stones mineral phases – *A.R. Izatulina*

Calculated ion-atom core-level shifts for use in estimating atomic and ionic radii of free atoms and ions – *G. Moretti*

Deconvolution of instrumental broadening: A simple numerical approximation – *T. Váci*

Ab initio modelling of vibrational spectra of minerals: studying Mercury's surface in remote sensing – *C. Stangarone*

The influence of the Fe_2O_3 content on luminescence spectra of Cr^{3+} -containing sapphires – *D.T.M. Phan*

Valence state and symmetry mapping of Fe oxide exsolutions – *I. Stelluti*

V K-edge XANES in V-bearing model compounds: a Full Multiple Scattering study – *F. Benzi*

2D mapping of Iron content, oxidation state and local structure by XANES: an application to natural volcanic glasses – *G. Giuli*

Single-crystal elastic properties of thaumasite and ettringite: a combination of experiments and DFT computations – *S. Speziale*

Mechanical anisotropy of a quartz crystal investigated by depth-sensing indentation – *E. Bruschini*

Versatile high-sensitive appliance for analysis of spectrally resolved thermoluminescence in meteorites – *I.A. Weinstein*

Innovative micro-Laser Induced Breakdown Spectroscopy of Enstatite Chondrites: preliminary data of Sahara 97072 EH3 – *G. Tempesta*

Effects of radiation damage on the Nd^{3+} luminescence of ekanite, $\text{ThCa}_2\text{Si}_8\text{O}_{20}$ – *M. Zeug*

Analysis of luminescent calcite by laser-induced breakdown spectroscopy – *S. Romppanen*

CONTRIBUTIONS

KEYNOTE LECTURES *(in the presentation order)*

Short-range order in rock-forming and accessory minerals: a review of the present state of affairs and some suggestions as to what to do next

F.C. Hawthorne

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Structural control of the color of minerals and glasses using spectroscopic tools

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Empirical electronic polarizabilities in oxides, hydroxides, oxyfluorides and oxychlorides

R.D. Shannon and R X. Fischer

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FTIR spectroscopy at HT: applications and problems

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DFT-based calculations for the interpretation of mineral spectra

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Magnetism meets Mössbauer spectroscopy and the stories they tell

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ORAL PRESENTATIONS *(in the presentation order)*

Shannon information and configurational entropy of crystalline solids

S.V. Krivovichev

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Order-disorder phase transitions in the minerals with antiperovskite structures

M.S. Avdontceva, M.G. Krzhizhanovskaya, A.A. Zolotarev, S.V. Krivovichev and V.N. Yakovenchuk

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Combining structure refinement and spectroscopies: hints and warnings for more efficient tools to decipher the mechanisms of deprotonation in amphiboles

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Crystal chemistry of amphiboles by Raman spectroscopy

L. Leissner, J. Schlüter, I. Horn and B. Mihailova

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Reapproval of betalomonosovite as a valid mineral species: single-crystal X-ray diffraction, HRTEM, Raman and IR spectroscopy

E. Sokolova, F.C. Hawthorne, Y.A. Abdu, A. Genovese and F. Cámara

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“Chlorellestadite” $\text{Ca}_5(\text{SiO}_4)_{1.5}(\text{SO}_4)_{1.5}\text{Cl}$, a potentially new mineral of the apatite supergroup from the Shadil Khokh volcano, Kel’sky Plateau, Southern Ossetia

D. Środek, M. Dulski, V.M. Gazeev and I.O. Galuskina

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Raman investigation of new and potentially new minerals of nabimusaite supergroup

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Perettiite-(Y), $\text{Y}^{3+}_2\text{Mn}^{2+}_4\text{Fe}^{2+}[\text{Si}_2\text{B}_8\text{O}_{24}]$, a new mineral from Momeik, Myanmar

R.M. Danisi, T. Armbruster, H.A.O. Wang, D. Günther, M. Nagashima, E. Reusser and W. Bieri

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Tourmaline from the eclogite hosting gneisses in the Tso Morari UHP metamorphic terrane (Ladakh, India): characteristics and evolution

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Bosiite, a new member of the tourmaline supergroup

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The origin of colour of red beryl by LIBS analyses

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Ni-Ti-Co-doped hibonite ceramic pigments by combustion synthesis: crystal structure and optical properties

M. Ardit, S. Borcǎnescu, G. Cruciani, M. Dondi, I. Lazǎu, C. Pǎcurariu and C. Zanelli

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Precious opals from the Raduzhnoe deposit (Russia): mineralogy, geochemistry

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High-temperature crystal chemistry of astrophyllite from Kola peninsula, Russia

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Raman spectroscopy and the inversion degree of natural Cr-bearing spinels

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Diffusion of redox-variable elements in minerals: the example of Cr diffusion in pure forsterite and natural olivine

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Multicomponent solid solutions in secondary oxyminerals from a polymetallic deposit in the Sudetes, Poland

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As^{5+} incorporation into rhomboclase and its dehydration product $(\text{H}_3\text{O})\text{Fe}(\text{SO}_4)_2$ - An EXAFS study

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Crystal chemistry of Si-deficient B-bearing vesuvianite forming epitaxial intergrowths on wiluite

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Mixed uranyl sulfato-selenates: variable composition and crystal structures

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Expanding knowledge on crystal chemistry of uranyl sulfate minerals

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Photoluminescence spectroscopy: a tool for revealing stress caused by self-irradiation damage

L. Nasdala and C. Lenz

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Turquoise zircon: new diffraction and optical data - an overview of V⁴⁺ crystal chemistry and optical spectroscopy in minerals

M. Dondi, M. Ardit and G. Cruciani

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Electron-beam irradiation of zircon: A discussion of spectroscopic phenomena

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Diffusion of hydrogen in zircon

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FTIR spectroscopy of minerals with complex H-bonds network

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Hydrogen bonding in mineral-related $M_{2-x}M_{12}(OH)_6(HXO_4)_2(H_{2x/3}XO_4)_6$ compounds: synergy of X-ray diffraction and infrared spectroscopy

T. Đorđević and E. Libowitzky

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The temperature and oxygen fugacity dependence of hydroxyl incorporation in San Carlos olivine: an experimental and infrared study

P.M.E. Tollan, H.St.C. O'Neill and J. Herman

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New tool for water calculation in Martian fluorapatite: a combined synchrotron FTIR, Raman spectroscopy, EMPA and TEM study

E. Štáby, M. Koch-Müller, R. Wirth, H.-J. Förster, A. Schreiber, U. Schade and D. Rhede

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Clinopyroxenes from Pico Volcano (Azores Island, Portugal): crystal chemistry and water content

S. Nazzareni, V. Barbarossa, H. Skogby and V. Zanon

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Chemical bonding and radiation stability of monazite-structure orthophosphates: ab initio and spectroscopy studies

Y.V. Shchapova, N.S. Vinogradova, S.L. Votyakov and M.V. Ryzhkov

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Electronic high-spin to low-spin transition in siderite at high pressure and temperature

J. Müller, M. Koch-Müller and S. Jahn

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A combined micro-Raman spectroscopy and single-crystal X-ray diffraction approach: an example on natural and synthetic garnets

N. Menegoni, F. Nestola, M. Alvaro and S. Milani

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Cation order-disorder behavior in silicate garnet solid solutions

C.A. Geiger, A.C. Palke and J.F. Stebbins

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Structure of iron - and cobalt-doped ZnO as anode material for Li-ion batteries

G. Giuli, A. Trapananti, F. Mueller, D. Bresser, F. D'Acapito and S. Passerini

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Physico-chemical properties of quartz from industrial manufacturing and its cytotoxic effects on alveolar macrophages: the case of green sand mould casting for iron production

F. Di Benedetto, E. Gazzano, M. Tomatis, F. Turci, L. Pardi, S. Bronco, G. Fornaciai, M. Innocenti, G. Montegrossi, M. Muniz-Miranda, A. Zoleo, F. Capacci, B. Fubini, D. Ghigo and M. Romanelli

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Study of the asbestos bodies and chemical-physical modification of mineral fibres in rat histological tissues using electron microscopy and micro-Raman spectroscopy

N. Bursi Gandolfi, S. Pollastri, A.F. Gualtieri and A. Viani

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Exploiting XPS for clarifying toxicity of mineral fibers

M. Fantauzzi, A. Pacella, G.B. Andreozzi, P. Ballirano, A. Gianfagna and A. Rossi

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Minerals of the bowieite – kashinite series from the Svetly Bor complex, Urals, Russia, and comparison with worldwide occurrences

F. Zaccarini, L. Bindi, E. Pushkarev, G. Garuti and R.J. Bakker

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Characterization of structure and growth of electrodeposited Cu-S ultra-thin films

A. Giaccherini, S. Cinotti, F. Capolupo, F. Carlà, G. Montegrossi, A. Guerri, R. Felici, M. Innocenti and F. Di Benedetto

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Iron meteorites and their weathering products: Mössbauer spectroscopy with a high velocity resolution of the iron-bearing minerals

M.V. Goryunov, G.A. Yakovlev, A.V. Chukin, V.I. Grokhovsky, V.A. Semionkin and M.I. Oshtrakh

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Spectroscopic study of Chelyabinsk LL5 meteorite: structural peculiarities of iron-bearing minerals in different fragments

A.A. Maksimova, E.A. Petrova, A.V. Chukin, A.S. Vokhmintsev, V.I. Grokhovsky, I.A. Weinshtein, V.A. Semionkin and M.I. Oshtrakh

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²³Na nuclear magnetic resonance (NMR) spectroscopic study of loparite-(Ce)

E.A. Popova, B. Zalar, S.G. Lushnikov and S.V. Krivovichev

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Crystal chemistry of “Li₇La₃Zr₂O₁₂” garnet doped with Al, Ga, and Fe: a review of NMR- and Mössbauer spectroscopy studies

G. Amthauer, J. Langer, M.E. Meyer, D. Rettenwander, R. Wagner and M. Wilkening
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Combined Mössbauer and X-ray photoelectron spectroscopy approach for identification of metal substitution into nearly-amorphous secondary iron oxides emerging from advanced technologies of water treatment (iron nanoparticles/ferratesIV,V,VI)

J. Filip, J. Tuček, J. Kolařík, M. Petr, R. Pucek and R. Zbořil
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POSTER PRESENTATIONS: session 1 (in alphabetical order)

Characterization of plagioclase solid solution by Raman spectroscopy: a procedure for the determination of the chemical composition

I. Aliatis, E. Lambruschi, L. Mantovani, A. Benisek, D. Bersani, M.A. Carpenter, D.G. Gatta, M. Tribaudino and P.P. Lottici
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Diffraction and spectroscopic characterization of jeffbenite: a high-pressure marker in diamonds

C. Anzolini, F. Nestola, A.D. Burnham, L. Peruzzo, L. Tauro, M. Alvaro, M.J. Walter, M. Gunther, S.C. Kohn
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Fast on-site identification of minerals by using portable Raman equipment in gemmological trade contexts and in collectors exhibitions

G. Barone, D. Bersani, J. Jehlička, P. Mazzoleni, S. Raneri and P. Vandenabeele
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The crystal structure of girvasite, NaCa₂Mg₃(PO₄)₃(CO₃)(H₂O)₆, a complex phosphate carbonate hydrate based upon electroneutral heteropolyhedral layers

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Identification by micro-Raman spectroscopy of iron-rich mineral particles lying on the surface of erionite fibers from Rome (Oregon - USA) and from Karlik (Cappadocia – Turkey)

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Synthesis and crystal-chemistry of amphiboles along the join richterite - ferrichterite: a combined spectroscopic (FTIR, Mössbauer), X-ray and microchemical study

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Determination of structure of highly carbonized organic matter using Raman spectroscopy in comparison with the HRTEM, SAXS and XRD data

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Structural complexity and thermal expansion of Ba silicates

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Structural refinement, crystal chemistry and optical spectra of Co-doped synthetic diopside

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Incorporation of BO_3 groups in dry olivine

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EPR and XRD study of Co-bearing natural spinel from Vietnam

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Structural disorder in narsarsukite from murun (Russia)

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Precipitates around thermal springs in the catchment of the Rio Colca, Peru

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Spectroscopic and diffractometric study of dye molecules confined in zeolite L channels: towards an effective transport of electronic excitation energy

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Crystal chemistry and optical spectroscopy of Co_3TeO_6 and $(\text{Co,Zn})_3\text{TeO}_6$ solid solutions

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Ti-rich garnets: an EPMA, SIMS, Mössbauer, XRPD and SCXRD investigation

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EPR study of quartz from the Peschanka porphyry Cu–Au–Mo deposit, Russia

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HT-FTIR spectroscopy of riebeckite

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Structural complexity and polymorphism in borates

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The effect of Er: YAG dental laser treatment with low energy on the human tooth apatite studied by Raman and IR reflection micro-spectroscopy

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Crystal structure of synthetic Ga, Fe-bearing tourmaline: SREF, EMPA and MS

O.S. Vereshchagin, T.V. Setkova, D.V. Deyneko, K.V. Pokholok and I.V. Rozhdestvenskaya

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Concentration self-quenching effect of Er^{3+} in mixed-framework barium rare-earth sorosilicates

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Low temperature single crystal X-ray diffraction study of quintinite-1M –, a natural layered double hydroxide (LDHs)
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Ti-bearing dalyite from the charoite rocks (Murun massif, Russia): single-crystal structure refinement
A.A. Zolotarev, N.V. Vladykin and S.V. Krivovichev
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POSTER PRESENTATIONS: session 2 (in alphabetical order)

Innovative micro-Laser Induced Breakdown Spectroscopy of Enstatite Chondrites: preliminary data of Sahara 97072
EH3
G. Agrosi, P. Manzari, G.S. Senesi and G. Tempesta
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V K-edge XANES in V-bearing model compounds: a Full Multiple Scattering study
F. Benzi, G. Giuli, S. Della Longa and E. Paris
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Raman Spectroscopy as a tool for magnesium estimation in Mg-calcite
L. Borromeo, U. Zimmermann, S. Andò, G. Coletti, D. Bersani, D. Basso, P. Gentile and E. Garzanti
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Mechanical anisotropy of a quartz crystal investigated by depth-sensing indentation
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Health effects of crystalline silica: a methodological approach to the study of industrially processed materials
F. Capacci, F. Di Benedetto, L. Pardi and M. Romanelli
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Geology and occurrence of Ti deposits in Hadong, Korea
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Raman study of MgAl_2O_4 - FeAl_2O_4 and MgAl_2O_4 - MgFe_2O_4 spinel solid solutions
V. D'ippolito, G.B. Andreozzi, P.P. Lottici and D. Bersani
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Calculated ion-atom core-level shifts for use in estimating atomic and ionic radii of free atoms and ions
G. Fierro and G. Moretti
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A spectroscopic investigation of pyrite nanoparticles for energy conversion and storage
A. Giaccherini, I. Colantoni, F. D'Acapito, G. Montegrossi, M. Romanelli, M. Innocenti and F. Di Benedetto
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Use of natural clays as sorbent materials for rare earth ions recovery from weed
E.M. Iannicelli-Zubiani, C. Cristiani, G. Dotelli, P. Gallo Stampino, R. Pelosato, M. Lacalamita, E. Mesto and E. Schingaro
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Bacterial, viral and protein substance influence on the formation of renal stones mineral phases
A.R. Izatulina, A.M. Nikolayev, M.A. Kuzmina, O.V. Frank-Kamenetskaya and V.V. Malyshev
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High pressure Raman spectroscopy on Ca-clinopyroxenes

E. Lambruschi, I. Aliatis, L. Mantovani, M. Tribaudino, D. Bersani, G. Redhammer, G.D. Gatta and P.P. Lottici
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Potentiality of micro-Raman Spectroscopy for the identification of unclassified minerals preserved in old Museum collections

P. Mazzoleni, G. Barone, E. Aquilia, D. Bersani, R. Cirrincione and S. Raneri
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A spectroscopic study of volcanic ashes from Mt. Etna, Catania (Italy)

P. Mazzoleni, G. Barone, F. Di Benedetto, M. Benvenuti, P. Costagliola, G. Montegrossi, V. Rimondi, M. Romanelli, F. Bardelli and F. d'Acapito
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The influence of the Fe₂O₃ content on luminescence spectra of Cr³⁺-containing sapphires

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Analysis of luminescent calcite by laser-induced breakdown spectroscopy

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Single-crystal elastic properties of thaumasite and ettringite: a combination of experiments and DFT computations

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Ab initio modelling of vibrational spectra of minerals: studying Mercury's surface in remote sensing

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Valence state and symmetry mapping of Fe oxide exsolutions

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2D mapping of Iron content, oxidation state and local structure by XANES: an application to natural volcanic glasses

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Deconvolution of instrumental broadening: A simple numerical approximation

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Versatile high-sensitive appliance for analysis of spectrally resolved thermoluminescence in meteorites

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Polarized IR and Raman spectra of the OH-dipole in zoisite

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Effects of radiation damage on the Nd³⁺ luminescence of ekanite, ThCa₂Si₈O₂₀

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