

Non-refereed publications in 2019

- [1] G. Alemanno, E. Garcia-Caurel, J. Carter, R. Brunetto, F. Poulet, A. Aléon-Toppani, R. Urso, O. Mivumbi, C. Boukari, and V. Godard. Experimental Determination of Optical Constants from Martian Analog Materials Using a Spectro-Polarimetric Approach. In *Lunar and Planetary Science Conference*, Lunar and Planetary Science Conference, page 1794, March 2019.
- [2] J. Aléon, A. Aléon-Toppani, B. Platevoet, J. M. Bardintzeff, K. D. McKeegan, and F. Brisset. Onset of Magmatism on a Carbonaceous Chondrite Planetesimal. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6047, July 2019.
- [3] A. Aléon-Toppani, J. Aléon, and F. Brisset. Fine-Grained CAIs at the Nanometer Scale: Discovery of a Pristine Aggregate of Sub- μm Condensates. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6077, July 2019.
- [4] D. Baklouti, M. Noun, R. Brunetto, F. Borondics, T. Calligaro, Z. Dionnet, and S. Della-Negra. A Multi-Technique Analysis of the Paris Meteorite to Characterize its Organic Content “In Situ”, Within its Mineral Matrix. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6358, July 2019.
- [5] J. P. Bibring, R. Brunetto, V. Hamm, M. Matsuoka, A. MoussiSoffys, T. Nakamura, A. Nakato, T. Okada, C. Pilorget, L. Riu, T. Yada, and K. Yogata. Compositional Characterization of the Hayabusa 2 Returned Samples with MicrOmega, Within the Curation Facility. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6177, July 2019.
- [6] Nicolas Bott, Rosario Brunetto, Alain Doressoundiram, Cristian Carli, Fabrizio Capaccioni, Yves Langevin, Davide Perna, François Poulet, Giovanna Serventi, Maria Sgavetti, Giovanni Strazzulla, Ferenc Borondics, and Christophe Sandt. Heating and cooling of minerals analogs of Mercury. In *EGU General Assembly Conference Abstracts*, EGU General Assembly Conference Abstracts, page 16047, April 2019.
- [7] Nicolas Bott, Rosario Brunetto, Alain Doressoundiram, Cristian Carli, Fabrizio Capaccioni, Yves Langevin, Davide Perna, François Poulet, Giovanna Serventi, Maria Sgavetti, Francesco Vetere, Diego Perugini, Cristina Pauselli, Giovanni Strazzulla, Ferenc Borondics, and Christophe Sandt. Examining the effects of both heating and irradiation on minerals analogs of Mercury. In *EPSC-DPS Joint Meeting 2019*, volume 2019, pages EPSC–DPS2019–1542, September 2019.
- [8] R. Brunetto, Z. Dionnet, A. Aléon-Toppani, D. Baklouti, F. Borondics, Z. Djouadi, A. King, T. Nakamura, S. Rubino, C. Sandt, D. Trodec, and A. Tsuchiyama. FTIR Micro-Tomography Coupled to X-CT on Extraterrestrial Materials. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6037, July 2019.

- [9] R. Brunetto and C. Lantz. Laboratory Ion Irradiation of Carbonaceous Chondrites to Reproduce Space Weathering of Dark Asteroids. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6033, July 2019.
- [10] Rosario Brunetto, Zélia Dionnet, Alice Aléon-Toppani, Donia Baklouti, Ferenc Borondics, Zahia Djouadi, Andrew King, Tomoki Nakamura, Stefano Rubino, Christophe Sandt, David Troadec, and Akira Tsuchiyama. FTIR and X-ray micro-tomography on Itokawa particles and carbonaceous chondrites. In *EPSC-DPS Joint Meeting 2019*, volume 2019, pages EPSC–DPS2019–91, September 2019.
- [11] Rosario Brunetto and Kohei Kitazato. Hayabusa2/NIRS3 spectral observations of the surface of asteroid (162173) Ryugu. In *EGU General Assembly Conference Abstracts*, EGU General Assembly Conference Abstracts, page 8162, April 2019.
- [12] Rosario Brunetto and Cateline Lantz. Laboratory perspectives on sample returns from Hayabusa2 and OSIRIS-REx. *Nature Astronomy*, 3:290–292, April 2019.
- [13] Q. H. S. Chan, M. E. Zolensky, R. Brunetto, E. T. Parker, J. P. Dworkin, C. Sandt, I. P. Wright, and I. A. Franchi. Coordinated Organic Analyses of Hayabusa Category 3 Carbonaceous Particles. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6223, July 2019.
- [14] Beth Ellen Clark, Salvatore Ferrone, Hannah Kaplan, Xiao-Duan Zou, Daniella DellaGiustina, Jian-Yang Li, Ronald-Lewis Ballouz, Carl Hergenrother, Lucille LeCorre, Bashar Rizk, Keara Burke, Carina Bennett, Dathon Golish, Lindsay Keller, Ellen Howell, Cateline Lantz, Maria Antonietta Barucci, Sonia Fornasier, and Dante Lauretta. Are the brighter rocks on Bennu products of recent mechanical weathering, and therefore less space-weathered? In *EPSC-DPS Joint Meeting 2019*, volume 2019, pages EPSC–DPS2019–962, September 2019.
- [15] Zélia Dionnet, Martin Suttle, Andrea Longobardo, Luigi Fulco, Alessandra Rotundi, Rosario Brunetto, Vincenzo Della Corte, and Andrew King. X-CT morphological study of giant antarctic micrometeorites. In *EPSC-DPS Joint Meeting 2019*, volume 2019, pages EPSC–DPS2019–117, September 2019.
- [16] T. Hiroi, R. E. Milliken, K. M. Robertson, H. Kaiden, K. Misawa, H. Tanaka, S. Sasaki, M. Matsuoka, T. Nakamura, K. Kitazato, T. Iwata, M. Abe, M. Ohtake, S. Matsuura, T. Arai, Y. Nakauchi, H. Senshu, N. Hirata, C. Pilorget, R. Brunetto, F. Poulet, L. Riu, D. Takir, D. L. Domingue, F. Vilas, M. A. Barucci, D. Perna, E. Palomba, A. Galiano, T. Osawa, M. Komatsu, A. Nakato, T. Arai, N. Takato, T. Matsunaga, S. Nakazawa, S. Tanaka, M. Yoshikawa, S. Watanabe, and Y. Tsuda. Gaussian Deconvolution of the 2.7-Micron Band of Hayabusa2/NIRS3 Spectrum of Asteroid Ryugu - Possibly a Heavily Space-Weathered CM Chondrite Body. In *Lunar and Planetary Science Conference*, Lunar and Planetary Science Conference, page 1129, March 2019.

- [17] Kohei Kitazato, Ralph Milliken, Takahiro Iwata, Masanao Abe, Makiko Ohtake, Shuji Matsuura, Takehiko Arai, Yusuke Nakauchi, Tomoki Nakamura, Moe Matsuoka, Hiroki Senshu, Naru Hirata, Takahiro Hiroi, Cedric Pilorget, Rosario Brunetto, Francois Poulet, Lucie Riu, Jean-Pierre Bibring, Driss Takir, and Deborah Domingue. Asteroid 162173 Ryugu: Surface composition as observed by Hayabusa2/NIRS3. In *EPSC-DPS Joint Meeting 2019*, volume 2019, pages EPSC–DPS2019–1376, September 2019.
- [18] Cateline Lantz, Rosario Brunetto, Donia Baklouti, and Tomoki Nakamura. More ion irradiated meteorites: expanding the space weathering view of dark asteroids. In *EPSC-DPS Joint Meeting 2019*, volume 2019, pages EPSC–DPS2019–132, September 2019.
- [19] H. Leroux, F. de la Peña, C. Le Guillou, C. Lantz, and R. Brunetto. Spectral and Microstructural Modifications of Olivine Under Ion Irradiation. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6261, July 2019.
- [20] D. Lévy, J. Aléon, A. Aléon-Toppani, and R. Brunetto. Alteration Phases in the E101.1 Compound CAI: Evidence of Nebular Processes? In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6046, July 2019.
- [21] M. Matsuoka, T. Nakamura, T. Hiroi, K. Kitazato, T. Iwata, M. Abe, K. Amano, S. Kobayashi, T. Osawa, M. Ohtake, S. Matsuura, T. Arai, H. Senshu, M. Komatsu, A. Nakato, Y. Nakauchi, C. Pilorget, R. Brunetto, F. Poulet, L. Riu, D. Domingue, F. Vilas, D. Takir, E. Palomba, A. Galiano, R. Milliken, D. Perna, A. Barucci, J. P. Bibring, N. Imae, A. Yamaguchi, H. Kojima, S. Nakazawa, S. Tanaka, M. Yoshikawa, S. Watanabe, and Y. Tsuda. Infrared Spectra of Asteroid Ryugu: Comparison to Laboratory-Measured Carbonaceous Chondrites. In *Lunar and Planetary Science Conference*, Lunar and Planetary Science Conference, page 1534, March 2019.
- [22] M. Matsuoka, T. Nakamura, T. Hiroi, K. Kitazato, H. Senshu, T. Iwata, M. Abe, K. Amano, S. Kobayashi, T. Osawa, M. Ohtake, S. Matsuura, T. Arai, M. Komatsu, A. Nakato, Y. Nakauchi, C. Pilorget, R. Brunetto, F. Poulet, L. Riu, D. L. Domingue, F. Vilas, D. Takir, E. Palomba, A. Galiano, R. Milliken, D. Perna, M. A. Barucci, and J. P. Bibring. Infrared Spectra of Dark Asteroid Ryugu and Carbonaceous Chondrites. In *AGU Fall Meeting Abstracts*, volume 2019, pages P43C–3482, December 2019.
- [23] R. Maupin, Z. Djouadi, and R. Brunetto. Vis-NIR Reflectance Micro-Spectroscopy of Interplanetary Dust Particles. In *Lunar and Planetary Science Conference*, Lunar and Planetary Science Conference, page 1775, March 2019.
- [24] R. Maupin, Z. Djouadi, R. Brunetto, C. Lantz, and O. Mivumbi. Vis-NIR Reflectance Micro-Spectroscopy of IDPs. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6162, July 2019.

- [25] T. Nakamura, C. Lantz, S. Kobayashi, Y. Nakauchi, K. Amano, R. Brunetto, M. Matsumoto, M. Takahashi, M. Matsuoka, T. Noguchi, T. Matsumoto, A. Miyake, A. Tsuchiyama, and M. E. Zolensky. Experimental Reproduction of Space Weathering of C-Type Asteroids by He Exposure to Shocked and Partially Dehydrated Carbonaceous Chondrites. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6211, July 2019.
- [26] T. Nakamura, M. Matsuoka, K. Amano, S. Kobayashi, H. Mita, R. Brunetto, C. Lantz, T. Hiroi, M. E. Zolensky, K. Kitazato, S. Sugita, R. Honda, T. Morota, E. Tatsumi, R. E. Milliken, T. Iwata, S. Kameda, H. Sawada, M. Abe, M. Ohtake, S. Matsuura, T. Arai, Y. Nakauchi, K. Mogi, S. Yamashita, Y. Sato, H. Ka, C. Honda, Y. Yokota, M. Yamada, T. Kouyama, N. Sakatani, H. Senshu, N. Hirata, H. Suzuki, K. Yoshioka, M. Hayakawa, Y. Cho, C. Pilorget, F. Poulet, L. Riu, J. P. Bibring, D. Takir, D. L. Domingue, F. Vilas, M. A. Barucci, D. Perna, E. Palomba, A. Galiano, K. Tsumura, T. Osawa, M. Komatsu, A. Nakato, T. Arai, N. Takato, T. Matsunaga, N. Imae, A. Yamaguchi, H. Kojima, S. Nakazawa, S. Tanaka, M. Yoshikawa, S. Watanabe, and Y. Tsuda. Possible Interpretations of Visible/Near-Infrared Spectra of Asteroid Ryugu Obtained by the Hayabusa2 Mission. In *Lunar and Planetary Science Conference*, Lunar and Planetary Science Conference, page 1681, March 2019.
- [27] L. Riu, K. Kitazato, R. Milliken, M. Abe, M. Ohtake, S. Matsuura, T. Arai, Y. Nakauchi, T. Nakamura, M. Matsuoka, H. Senshu, N. Hirata, T. Hiroi, C. Pilorget, R. Brunetto, F. Poulet, J. P. Bibring, D. Takir, D. L. Domingue, F. Vilas, M. A. Barucci, D. Perna, E. Palomba, A. Galiano, K. Tsumura, T. Osawa, M. Komatsu, A. Nakato, T. Arai, N. Takato, T. Matsunaga, Y. Takagi, K. Matsumoto, T. Kouyama, Y. Yokota, E. Tatsumi, N. Sakatani, Y. Yamamoto, T. Okada, S. Sugita, R. Honda, T. Morota, S. Kameda, H. Sawada, C. Honda, M. Yamada, H. Suzuki, K. Yoshioka, M. Hayakawa, K. Owaga, Y. Cho, Y. Takei, S. Saiki, S. Nakazawa, S. Tanaka, M. Yoshikawa, S. Watanabe, and Y. Tsuda. Global View of the Mineralogy and Surface Properties of the Asteroid Ryugu Using NIRS3 Near-Infrared Spectrometer on Board Hayabusa2. In *Lunar and Planetary Science Conference*, Lunar and Planetary Science Conference, page 1154, March 2019.
- [28] C. Sandt, Z. Dionnet, T. Toplak, E. Fernandez, R. Brunetto, and F. Borondics. Performance comparison of aperture-less and confocal infrared microscopes. *Journal of Spectral Imaging*, 8:a8, April 2019.
- [29] D. Takir, K. Kitazato, R. E. Milliken, T. Iwata, M. Abe, M. Ohtake, S. Matsuura, T. Arai, Y. Nakauchi, T. Nakamura, M. Matsuoka, H. Senshu, N. Hirata, T. Hiroi, C. Pilorget, R. Brunetto, F. Poulet, L. Riu, J. P. Bibring, D. L. Domingue, F. Vilas, M. A. Barucci, D. Perna, E. Palomba, A. Galiano, K. Tsumura, T. Osawa, M. Komatsu, A. Nakato, T. Arai, N. Takato, T. Matsunaga, Y. Takagi, K. Matsumoto, T. Kouyama, Y. Yokota, E. Tatsumi, N. Sakatani, Y. Yamamoto, T. Okada, S. Sugita, R. Honda, T. Morota, S. Kameda, H. Sawada, C. Honda, M. Yamada,

- H. Suzuki, K. Yoshioka, M. Hayakawa, K. Ogawa, Y. Cho, K. Shirai, Y. Shimaki, N. Hirata, A. Yamaguchi, N. Ogawa, F. Terui, T. Yamaguchi, Y. Takei, T. Saiki, S. Nakazawa, S. Tanaka, M. Yoshikawa, S. Watanabe, and Y. Tsuda. Spectral Characteristics of Asteroid (162173) Ryugu with Hayabusa2 NIRS3. In *82nd Annual Meeting of The Meteoritical Society*, volume 82, page 6096, July 2019.
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- [31] R. G. Urso, R. Brunetto, C. Lantz, T. Nakamura, D. Baklouti, T. Le Pivert-Jolivet, S. Kobayashi, and F. Borondics. Characterizing irradiated surfaces using IR spectroscopy. In *AGU Fall Meeting Abstracts*, volume 2019, pages P32A–01, December 2019.
- [32] Riccardo Giovanni Urso, Donia Baklouti, Zahia Djouadi, and Rosario Brunetto. The secret to a perfect tan on TNOs: alcohol, water and Sun radiation. In *EPSC-DPS Joint Meeting 2019*, volume 2019, pages EPSC–DPS2019–594, September 2019.