

Faith Vilas

List of Publications by Year in descending order

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106
papers

4,399
citations

117625

34
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114465

63
g-index

106
all docs

106
docs citations

106
times ranked

2934
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | Detection and discrimination of sulfate minerals using reflectance spectroscopy. <i>Icarus</i> , 2006, 184, 121-157. | 2.5 | 317 |
| 2 | The geomorphology, color, and thermal properties of Ryugu: Implications for parent-body processes. <i>Science</i> , 2019, 364, 252. | 12.6 | 313 |
| 3 | The surface composition of asteroid 162173 Ryugu from Hayabusa2 near-infrared spectroscopy. <i>Science</i> , 2019, 364, 272-275. | 12.6 | 262 |
| 4 | Phyllosilicate Absorption Features in Main-Belt and Outer-Belt Asteroid Reflectance Spectra. <i>Science</i> , 1989, 246, 790-792. | 12.6 | 185 |
| 5 | Deep Impact: Observations from a Worldwide Earth-Based Campaign. <i>Science</i> , 2005, 310, 265-269. | 12.6 | 182 |
| 6 | A Cheaper, Faster, Better Way to Detect Water of Hydration on Solar System Bodies. <i>Icarus</i> , 1994, 111, 456-467. | 2.5 | 154 |
| 7 | Near-Infrared Spectral Results of Asteroid Itokawa from the Hayabusa Spacecraft. <i>Science</i> , 2006, 312, 1334-1338. | 12.6 | 147 |
| 8 | Hydrated Minerals on Asteroids: , 2002, , 235-254. | | 143 |
| 9 | Mercury's Weather-Beaten Surface: Understanding Mercury in the Context of Lunar and Asteroidal Space Weathering Studies. <i>Space Science Reviews</i> , 2014, 181, 121-214. | 8.1 | 108 |
| 10 | Iron Alteration Minerals in the Visible and Near-Infrared Spectra of Low-Albedo Asteroids. <i>Icarus</i> , 1994, 109, 274-283. | 2.5 | 99 |
| 11 | Orbital multispectral mapping of Mercury with the MESSENGER Mercury Dual Imaging System: Evidence for the origins of plains units and low-reflectance material. <i>Icarus</i> , 2015, 254, 287-305. | 2.5 | 95 |
| 12 | Spectroscopic Observations of Mercury's Surface Reflectance During MESSENGER's First Mercury Flyby. <i>Science</i> , 2008, 321, 62-65. | 12.6 | 94 |
| 13 | Occultation detection of a neptunian ring-like arc. <i>Nature</i> , 1986, 319, 636-640. | 27.8 | 86 |
| 14 | Mercury: Absence of crystalline Fe ²⁺ in the regolith. <i>Icarus</i> , 1985, 64, 133-138. | 2.5 | 85 |
| 15 | The low-iron, reduced surface of Mercury as seen in spectral reflectance by MESSENGER. <i>Icarus</i> , 2014, 228, 364-374. | 2.5 | 82 |
| 16 | SPECTRAL CHARACTERISTICS OF HAYABUSA 2 NEAR-EARTH ASTEROID TARGETS 162173 1999 JU3 AND 2001 QC34. <i>Astronomical Journal</i> , 2008, 135, 1101-1105. | 4.7 | 81 |
| 17 | Reflectance spectrophotometry ($\lambda^{\sim}0.5\hat{a}^{\sim}1.0\hat{m}$) of outer-belt asteroids: Implications for primitive, organic solar system material. <i>Icarus</i> , 1985, 64, 503-516. | 2.5 | 68 |
| 18 | Spectral absorptions on Phobos and Deimos in the visible/near infrared wavelengths and their compositional constraints. <i>Icarus</i> , 2014, 229, 196-205. | 2.5 | 66 |

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|----|---|------|-----------|
| 19 | METHANE AND NITROGEN ABUNDANCES ON PLUTO AND ERIS. <i>Astrophysical Journal</i> , 2010, 725, 1296-1305. | 4.5 | 63 |
| 20 | The Effects of Space Weathering at UV Wavelengths: S-Class Asteroids. <i>Astronomical Journal</i> , 2006, 132, 1396-1404. | 4.7 | 60 |
| 21 | CCD reflectance spectra of selected asteroids. <i>Icarus</i> , 1992, 100, 85-94. | 2.5 | 57 |
| 22 | Ferric Iron in Primitive Asteroids: A 0.43- μ m Absorption Feature. <i>Icarus</i> , 1993, 102, 225-231. | 2.5 | 53 |
| 23 | The dependence of reflectance spectra of Mercury on surface terrain. <i>Icarus</i> , 1984, 59, 60-68. | 2.5 | 52 |
| 24 | CCD Reflectance Spectra of Selected Asteroids. II. Low-Albedo Asteroid Spectra and Data Extraction Techniques. <i>Icarus</i> , 1993, 105, 67-78. | 2.5 | 51 |
| 25 | Diurnally Migrating Lunar Water: Evidence From Ultraviolet Data. <i>Geophysical Research Letters</i> , 2019, 46, 2417-2424. | 4.0 | 49 |
| 26 | Thermally altered subsurface material of asteroid (162173) Ryugu. <i>Nature Astronomy</i> , 2021, 5, 246-250. | 10.1 | 47 |
| 27 | Mercury: Spectral reflectance measurements (0.33- μ m) 1974/1975. <i>Icarus</i> , 1976, 28, 593-599. | 2.5 | 46 |
| 28 | Vesta and the Vestoids: A New Rock Group?. <i>Icarus</i> , 2000, 147, 119-128. | 2.5 | 46 |
| 29 | Mineralogical indicators of Mercury's hollows composition in MESSENGER color observations. <i>Geophysical Research Letters</i> , 2016, 43, 1450-1456. | 4.0 | 42 |
| 30 | Are Hyperion and Phoebe Linked to Iapetus?. <i>Icarus</i> , 2000, 146, 125-132. | 2.5 | 41 |
| 31 | Evidence of N ₂ -ice on the surface of the icy dwarf Planet 136472 (2005 FY ₉). <i>Icarus</i> , 2008, 195, 844-850. | 2.5 | 40 |
| 32 | Optical Spectroscopy of the Large Kuiper Belt Objects 136472 (2005 FY ₉) and 136108 (2003 EL ₆₁). <i>Astronomical Journal</i> , 2007, 133, 526-530. | 4.7 | 39 |
| 33 | Global photometric properties of (162173) Ryugu. <i>Astronomy and Astrophysics</i> , 2020, 639, A83. | 5.1 | 37 |
| 34 | Ceres: Sulfur deposits and graphitized carbon. <i>Geophysical Research Letters</i> , 2016, 43, 8920-8927. | 4.0 | 36 |
| 35 | Whole-disk spectrophotometric properties of Mercury: Synthesis of MESSENGER and ground-based observations. <i>Icarus</i> , 2010, 209, 101-124. | 2.5 | 35 |
| 36 | Discovery and Analysis of Minor Absorption Bands in S-Asteroid Visible Reflectance Spectra. <i>Icarus</i> , 1996, 119, 202-208. | 2.5 | 34 |

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|----|---|------|-----------|
| 37 | Unraveling the Zebra: Clues to the Iapetus Dark Material Composition. <i>Icarus</i> , 1996, 124, 262-267. | 2.5 | 34 |
| 38 | Quantified mineralogical evidence for a common origin of 1929 Kollaa with 4 Vesta and the HED meteorites. <i>Icarus</i> , 2003, 165, 215-218. | 2.5 | 34 |
| 39 | Multi-wavelength observations of Asteroid 2100 Ra-Shalom. <i>Icarus</i> , 2008, 193, 20-38. | 2.5 | 34 |
| 40 | Are Low-Albedo Asteroids Thermally Metamorphosed?. <i>Icarus</i> , 1996, 124, 483-489. | 2.5 | 33 |
| 41 | The Changing Spectrum of Vesta: Rotationally Resolved Spectroscopy of Pyroxene on the Surface. <i>Icarus</i> , 1998, 134, 207-212. | 2.5 | 33 |
| 42 | Near-infrared spectrophotometry of Asteroid 25143 Itokawa from NIRS on the Hayabusa spacecraft. <i>Icarus</i> , 2008, 194, 137-145. | 2.5 | 33 |
| 43 | Physical characteristics of Hayabusa target Asteroid 25143 Itokawa. <i>Icarus</i> , 2005, 173, 153-165. | 2.5 | 32 |
| 44 | Exploring the asteroid belt with ion propulsion: Dawn mission history, status and plans. <i>Advances in Space Research</i> , 2007, 40, 193-201. | 2.6 | 32 |
| 45 | Oblateness, radius, and mean stratospheric temperature of Neptune from the 1985 August 20 occultation. <i>Icarus</i> , 1987, 72, 635-646. | 2.5 | 31 |
| 46 | The Fate of Amino Acids During Simulated Meteoritic Impact. <i>Astrobiology</i> , 2009, 9, 943-951. | 3.0 | 29 |
| 47 | Occultation determination of Neptune's oblateness and stratospheric methane mixing ratio. <i>Nature</i> , 1986, 324, 227-231. | 27.8 | 28 |
| 48 | JVI Himalia: New Compositional Evidence and Interpretations for the Origin of Jupiter's Small Satellites. <i>Icarus</i> , 2000, 145, 445-453. | 2.5 | 27 |
| 49 | Results from observations of the 15 June 1983 occultation by the Neptune system. <i>Astronomical Journal</i> , 1985, 90, 655. | 4.7 | 27 |
| 50 | Mercurian Impact Craters: Implications for Polar Ground Ice. <i>Icarus</i> , 1999, 141, 194-204. | 2.5 | 25 |
| 51 | Mineralogical composition of (25143) Itokawa 1998 SF ₃₆ from visible and near-infrared reflectance spectroscopy: Evidence for partial melting. <i>Meteoritics and Planetary Science</i> , 2007, 42, 2165-2177. | 1.6 | 25 |
| 52 | The mystery of 506.5 nm feature of reflectance spectra of Vesta and Vestoids: Evidence for space weathering?. <i>Earth, Planets and Space</i> , 2001, 53, 1071-1075. | 2.5 | 24 |
| 53 | Spectrally blue hydrated parent body of asteroid (162173) Ryugu. <i>Nature Communications</i> , 2021, 12, 5837. | 12.8 | 23 |
| 54 | Mercury's spectrophotometric properties: Update from the Mercury Dual Imaging System observations during the third MESSENGER flyby. <i>Planetary and Space Science</i> , 2011, 59, 1853-1872. | 1.7 | 22 |

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|----|--|-----|-----------|
| 55 | The <scp>UV</scp> signature of carbon in the solar system. Meteoritics and Planetary Science, 2016, 51, 105-115. | 1.6 | 21 |
| 56 | Structure of scintillations in Neptune's occultation shadow. Astrophysical Journal, 1988, 325, 490. | 4.5 | 21 |
| 57 | Investigating the Vestaâ€“vestoidâ€“HED connection. Icarus, 2004, 167, 360-368. | 2.5 | 19 |
| 58 | LCROSS (Lunar Crater Observation and Sensing Satellite) Observation Campaign: Strategies, Implementation, and Lessons Learned. Space Science Reviews, 2012, 167, 93-140. | 8.1 | 19 |
| 59 | New candidates for active asteroids: Main-belt (145) Adeona, (704) Interamnia, (779) Nina, (1474) Beira, and near-Earth (162,173) Ryugu. Icarus, 2018, 304, 83-94. | 2.5 | 18 |
| 60 | The McDonald Observatory Serendipitous UV/Blue Spectral Survey of Asteroids. Icarus, 1997, 127, 121-129. | 2.5 | 17 |
| 61 | Aqueous alteration affecting the irregular outer planets satellites: Evidence from spectral reflectance. Icarus, 2006, 180, 453-463. | 2.5 | 17 |
| 62 | Characterization of the morphometry of impact craters hosting polar deposits in Mercury's north polar region. Journal of Geophysical Research, 2012, 117, . | 3.3 | 17 |
| 63 | MESSENGER Observations of Magnetohydrodynamic Waves in the Solar Corona from Faraday Rotation. Solar Physics, 2013, 285, 71-82. | 2.5 | 17 |
| 64 | Câ€“Complex Asteroids: UVâ€“Visible Spectral Characteristics and Implications for Space Weathering Effects. Geophysical Research Letters, 2019, 46, 14307-14317. | 4.0 | 17 |
| 65 | A newly-identified spectral reflectance signature near the lunar South pole and the South Pole-Aitken Basin. Earth, Planets and Space, 2008, 60, 67-74. | 2.5 | 15 |
| 66 | Digging into the surface of the icy dwarf planet Eris. Icarus, 2009, 199, 520-525. | 2.5 | 15 |
| 67 | Measurements of Faraday Rotation Through the Solar Corona During the 2009 Solar Minimum with the MESSENGER Spacecraft. Solar Physics, 2013, 285, 83-95. | 2.5 | 15 |
| 68 | Vis-NIR disk-integrated photometry of asteroid 25143 Itokawa around opposition by AMICA/Hayabusa. Icarus, 2018, 311, 175-196. | 2.5 | 15 |
| 69 | Multivariable statistical analysis of spectrophotometry and spectra of (162173) Ryugu as observed by JAXA Hayabusa2 mission. Astronomy and Astrophysics, 2019, 629, A13. | 5.1 | 15 |
| 70 | Vesta's UV lightcurve: hemispheric variation in brightness and spectral reversal. Icarus, 2003, 162, 1-9. | 2.5 | 14 |
| 71 | The 506nm absorption feature in pyroxene spectra: Nature and implications for spectroscopy-based studies of pyroxene-bearing targets. Icarus, 2010, 207, 295-313. | 2.5 | 14 |
| 72 | THE UV/BLUE EFFECTS OF SPACE WEATHERING MANIFESTED IN S-COMPLEX ASTEROIDS. I. QUANTIFYING CHANGE WITH ASTEROID AGE. Astronomical Journal, 2015, 150, 64. | 4.7 | 14 |

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|----|---|-----|-----------|
| 73 | Closing in on HED meteorite sources. <i>Earth, Planets and Space</i> , 2001, 53, 1077-1083. | 2.5 | 13 |
| 74 | How much material do the radar-bright craters at the Mercurian poles contain?. <i>Planetary and Space Science</i> , 2005, 53, 1496-1500. | 1.7 | 13 |
| 75 | Is the U-B Color Sufficient for Identifying Water of Hydration on Solar System Bodies?. <i>Icarus</i> , 1995, 115, 217-218. | 2.5 | 12 |
| 76 | Extracting Spectral Information about 253 Mathilde Using the NEAR Photometry. <i>Icarus</i> , 1997, 129, 440-449. | 2.5 | 12 |
| 77 | Local topographic effects on photometry and reflectance spectra of planetary surfaces: An example based on lunar photometry. <i>Meteoritics and Planetary Science</i> , 2007, 42, 1801-1816. | 1.6 | 12 |
| 78 | The 2004 Las Campanas/Lowell Observatory campaign II. Surface properties of Hayabusa target Asteroid 25143 Itokawa inferred from Hapke modeling. <i>Earth, Planets and Space</i> , 2008, 60, 49-59. | 2.5 | 12 |
| 79 | Mercury's Hollows. , 2018, , 324-345. | | 12 |
| 80 | The 2004 Las Campanas/Lowell Observatory Itokawa campaign: I. Simultaneous visible and near-infrared photometry of the Hayabusa mission target. <i>Earth, Planets and Space</i> , 2008, 60, 39-48. | 2.5 | 9 |
| 81 | Physical parameters of near-Earth asteroid 1982 DV. <i>Icarus</i> , 1985, 63, 201-205. | 2.5 | 8 |
| 82 | Plasma Interactions with the Space Environment in the Acceleration Region: Indications of CME-trailing Reconnection Regions. <i>Astrophysical Journal</i> , 2018, 861, 118. | 4.5 | 8 |
| 83 | Lunar occultations from Cerro Tololo. II. Angular diameters for ξ^2 SGR and π Leo.. <i>Publications of the Astronomical Society of the Pacific</i> , 1977, 89, 95. | 3.1 | 8 |
| 84 | Coronagraph for astronomical imaging and spectrophotometry. <i>Applied Optics</i> , 1987, 26, 664. | 2.1 | 7 |
| 85 | Iapetus dark and bright material:. <i>Icarus</i> , 2004, 170, 125-130. | 2.5 | 7 |
| 86 | A CCD search for geosynchronous debris. <i>Icarus</i> , 1986, 68, 412-417. | 2.5 | 6 |
| 87 | Spectrophotometry of Kuiper Belt Objects 20000 Varuna, 2000 Eb173 and Centaur 10199 Chariklo. <i>Earth, Moon and Planets</i> , 2003, 92, 193-199. | 0.6 | 6 |
| 88 | A charge-coupled device observation of Charon. <i>Icarus</i> , 1983, 56, 75-79. | 2.5 | 5 |
| 89 | Space station freedom debris protection techniques. <i>Advances in Space Research</i> , 1993, 13, 191-200. | 2.6 | 5 |
| 90 | Thermal models applicable for visual and infrared studies of orbital debris. <i>Advances in Space Research</i> , 1990, 10, 377-380. | 2.6 | 4 |

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|-----|--|------|-----------|
| 91 | Low-cost airborne astronomy imager to begin research phase. Eos, 2000, 81, 101-105. | 0.1 | 4 |
| 92 | The UV/blue effects of space weathering manifested in S-complex asteroids II: Probing for less-weathered objects in the Solar System. Planetary and Space Science, 2015, 118, 273-276. | 1.7 | 3 |
| 93 | Regional spectrophotometric properties of 951 Gaspra. Icarus, 2016, 280, 340-358. | 2.5 | 3 |
| 94 | Spectrophotometric Properties of 162173 Ryugu's Surface from the NIRS3 Opposition Observations. Planetary Science Journal, 2021, 2, 178. | 3.6 | 3 |
| 95 | Neptune's rings. Nature, 1986, 319, 616-616. | 27.8 | 2 |
| 96 | The detection of earth orbiting objects by IRAS. Advances in Space Research, 1990, 10, 381-384. | 2.6 | 1 |
| 97 | The science enabled by a dedicated solar system space telescope. , 2021, 53, . | | 1 |
| 98 | Spectrophotometry of Kuiper Belt Objects 20000 Varuna, 2000 EB173 and Centaur 10199 Chariklo. , 2004, , 193-199. | | 1 |
| 99 | Editorial: Introducing the Planetary Science Journal. Planetary Science Journal, 2020, 1, 1. | 3.6 | 1 |
| 100 | <title>SWUIS-A: a versatile low-cost UV/VIS/IR imaging system for airborne astronomy and aeronomy research</title>. , 2000, , . | | 0 |
| 101 | Space Weathering of S-Complex Asteroids Manifested in the UV/Blue: Recent Insights and Future Directions. Proceedings of the International Astronomical Union, 2015, 10, 201-205. | 0.0 | 0 |
| 102 | Asteroid, Meteoroid, and Spacecraft Reentry Accidents. , 2016, , 905-908. | | 0 |
| 103 | Architectures and Technologies for a Space Telescope for Solar System Science. , 2021, 53, . | | 0 |
| 104 | The Small Satellites of the Solar System: Priorities for the Decadal Study. , 2021, 53, . | | 0 |
| 105 | Asteroid, Meteoroid, and Spacecraft Reentry Accidents. , 2006, , 838-841. | | 0 |
| 106 | Nadine G. Barlow (1958-2020). , 2020, 52, . | | 0 |