

Publication list - Dr. Veerle J. Sterken (November 2021)

Publications (refereed)

1. A. Posner, et al. 2021: A Multi-purpose Heliophysics L4 Mission. *Space Weather*, **19**, Issue 9, pp. e02777.
2. P.J. Wozniakiewicz, et al. 2021: A cosmic dust detection suite for the deep space Gateway. *Adv. in Sp. Res.*, **68**, Issue 1, p. 85-104. DOI: 10.1016/j.asr.2021.04.002.
3. M. Blanc, O. Prieto Ballesteros, N. Andre, J. Gomez-Elvira, G. Jones, **V. Sterken**, et al., 2020: Joint Europa Mission (JEM) A Multi-scale study of Europa to characterise its habitability and search for extant life. *Planetary and Space Science*, 192 - 104960. DOI: doi.org/10.1016/j.pss.2020.104960.
4. M. Hajdukova, **V. Sterken**, P. Wiegert, L. Kornos, 2020: The challenge of identifying interstellar meteors, *Planetary and Space Science*, **192**, 105060. DOI: 10.1016/j.pss.2020.105060.
5. M. Hajdukova, **V.J. Sterken**, P. Wiegert, 2019: Interstellar meteoroids, in *Meteoroids: Sources of Meteors on Earth and beyond*, Cambridge University Press, ISBN 9781108426718, p. 235-252. (refereed **book chapter**)
6. H. Krüger, P. Strub, R. Srama, M. Kobayashi, T. Arai, H. Kimura, H. Takayuki, G. Moragas-Klostermeyer, N. Altobelli, **V.J. Sterken**, J. Agarwal, M. Sommer, E. Grün, 2019: Modelling DESTINY+ interplanetary and interstellar dust measurements en route to the active asteroid (3200) Phaethon: *Planetary and Space Science*, **172**, pp. 22-42
7. **V.J. Sterken**, A.J. Westphal, N. Altobelli, D. Malaspina, F. Postberg, 2019: Interstellar dust in the solar system. *Space Science Reviews*, **215**, Issue 7, id. 43, 32 pp. (refereed **book chapter**)
8. H. Krüger, N. Altobelli, P. Strub, **V.J. Sterken**, R. Srama, E. Grün, 2019: Interstellar dust in the inner solar system: model versus in-situ spacecraft data. *Astronomy & Astrophysics*, **626**, A37.
9. H. Krüger, P. Strub, R. Srama, M. Kobayashi, T. Arai, H. Kimura, H. Takayuki, G. Moragas-Klostermeyer, N. Altobelli, **V.J. Sterken**, J. Agarwal, M. Sommer, E. Grün, 2019: Modelling DESTINY+ interplanetary and interstellar dust measurements en route to the active asteroid (3200) Phaethon: *Planetary and Space Science*, **172**, pp. 22-42.
10. D. Koschny, R.H. Soja, C. Engrand, G.J. Flynn, J. Lasue, A.C. Levasseur-Regourd, D. Malaspina, T. Nakamura, A.R. Poppe, V.J. Sterken, J.M. Trigo-Rodriguez: Interplanetary dust, meteors and meteorites: *Space Science Reviews*, **215**, Issue 4, id. 34, pp. 62 (refereed **book chapter**)
11. Schreiter, L., Arnold, D., **Sterken, V.J.**, Jäggi, A., 2019: Mitigation of ionospheric signatures in Swarm GPS gravity field estimation using weighting strategies, *Annales Geophysicae*, **37**, pp. 111-127
12. P. Strub, **V.J. Sterken**, R. Soja, H. Krüger, E. Grün, R. Srama, 2019: Heliospheric modulation of the interstellar dust flow on to Earth, *Astronomy & Astrophysics*, **621**, id. A54
13. N. Altobelli, F. Postberg, K. Fiege, M. Tieloff, H. Kimura, **V. Sterken**, S. Hsu, J. Hillier, N. Khawaja, G. Moragas-Klostermeyer, J. Blum, M. Burton, R. Srama, S. Kempf, E. Gruen, 2016: Flux and composition of interstellar dust at Saturn from Cassini's Cosmic Dust Analyzer, *Science*, 352, 6283, pp. 312-318
14. **V.J. Sterken**, P. Strub, H. Krüger, R. von Steiger, P. Frisch, 2015: Sixteen years of Ulysses Interstellar Dust Measurements in the Solar System. III. Simulations and data unveil new insights into local Interstellar Dust, *ApJ*, **812**, 141
15. P. Strub, H. Krüger, **V.J. Sterken**, 2015: Sixteen years of Ulysses Interstellar Dust Measurements in the Solar System. II. Fluctuations in the Dust Flow from the Data, *ApJ*, **812**, 140
16. H. Krüger, P. Strub, E. Grün, **V.J. Sterken**, 2015: Sixteen years of Ulysses Interstellar Dust Measurements in the Solar System. I. Mass Distribution and Gas-to-Dust Mass Ratio, *ApJ*, **812**, 139
17. C.S. Arridge, et al, 2014: The science case for an orbital mission to Uranus: Exploring the origins and evolution of ice giant planets: 2014, *Planetary and Space Science*, **104**, pp. 122-140

18. A.J. Westphal, et al, 2014: Evidence for interstellar origin of seven dust particles collected by the Stardust spacecraft: *Science*, **345**, no. 6198, pp. 786-791
19. A.J. Westphal, et al, 2014: Coordinated Microanalyses of Seven Particles of Probable Interstellar Origin from the Stardust mission: *Microscopy and Microanalysis*, **20** (Suppl. S3), pp. 1692-1693.
20. A.J. Westphal, et al, 2014: Final reports of the Stardust Interstellar Preliminary Examination. *MAPS*, **49**, pp. 1720-1733
21. R.M. Stroud, et al, 2014: Stardust Interstellar Preliminary Examination XI: Identification and elemental analysis of impact craters on Al foils from the Stardust Interstellar Dust Collector, *MAPS*, **49**, pp. 1698-1719
22. **V.J. Sterken**, A. Westphal, et al., 2014: Stardust Interstellar Preliminary Examination X: Interstellar dust simulations for the Stardust mission. *MAPS*, **49**, pp. 1690-1697
23. F. Postberg, et al, 2014: Stardust Interstellar Preliminary Examination IX: High-speed interstellar dust analog capture in Stardust flight-spare aerogel. *MAPS*, **49**, pp. 1666-1679
24. Z. Gainsforth, et al, 2014: Stardust Interstellar Preliminary Examination VIII: Identification of crystalline material in two interstellar candidates. *MAPS*, **49**, pp. 1645-1665
25. G.J. Flynn, et al, 2014: Stardust Interstellar Preliminary Examination VII: Synchrotron X-ray fluorescence analysis of six Stardust interstellar candidates measured with the Advanced Photon Source 2-ID-D microprobe. *MAPS*, **49**, pp. 1626-1644
26. A.S. Simionovici, et al, 2014: Stardust Interstellar Preliminary Examination VI: Quantitative elemental analysis by synchrotron X-ray fluorescence nanoimaging of eight impact features in aerogel. *MAPS*, **49**, pp. 1612-1625
27. F.E. Brenker, et al, 2014: Stardust Interstellar Preliminary Examination V: XRF analyses of interstellar dust candidates at ESRF ID13. *MAPS*, **49**, pp. 1594-1611
28. A.L. Butterworth, et al, 2014: Stardust Interstellar Preliminary Examination IV: Scanning transmission X-ray microscopy analyses of impact features in the Stardust Interstellar Dust Collector. *MAPS*, **49**, pp. 1562-1593
29. H.A. Bechtel, et al, 2014: Stardust Interstellar Preliminary Examination III: Infrared spectroscopic analysis of interstellar dust candidates. *MAPS*, **49**, pp. 1548-1561
30. D.R. Frank, et al, 2014: Stardust Interstellar Preliminary Examination II: Curating the interstellar dust collector, picokeystones, and sources of impact tracks. *MAPS*, **49**, pp. 1522-1547
31. A.J. Westphal, et al, 2014: Stardust Interstellar Preliminary Examination I: Identification of tracks in aerogel. *MAPS*, **49**, pp. 1509-1521
32. **V.J. Sterken**, N. Altobelli, S. Kempf, H. Krüger, R. Srama, P. Strub, E. Grün, 2013: The filtering of interstellar dust in the solar system, *A&A*, **552**, pp. A130
33. R.H. Soja, N. Altobelli, H. Krüger, **V.J. Sterken**, 2012: Dust environment predictions for the ESA L-class mission candidate JUICE. *PSS*, **75**, pp. 117-128
34. **V.J. Sterken**, N. Altobelli, S. Kempf, H. Krüger, F. Postberg, R.H. Soja, R. Srama, E. Grün, 2012: An optimum opportunity for interstellar dust measurements by the JUICE mission. *PSS*, **71**, Issue 1, p. 142-146.
35. R. Srama, et al., 2012: SARIM PLUS - Sample Return of Comet 67P/CG and of Interstellar Matter, *Exp. Astron.*, **33**, Issue 2-3, p. 723-751
36. **V.J. Sterken**, N. Altobelli, S. Kempf, G. Schwehm, R. Srama, E. Grün, 2012: The flow of interstellar dust into the solar system, *A&A*, **538** id. A102
37. R. Srama, et al., 2011: The cosmic dust analyser onboard Cassini: ten years of discoveries. *CEAS Space Journal*, **2**, No. 1-4, pp. 3-16
38. **V.J. Sterken**, 2007: Sir Hermann Bondi: A journey through his life and the early endeavours of Europe into space. *Acta astronautica*, **61**, pp. 514-525

Conference proceedings

1. R.H. Soja, J.T. Herzog, M. Sommer, J. Rodmann, J. Vaubailon, P. Strub, T. Albin, **V. Sterken**, A. Hornig, L. Bausch, E. Grün, R. Srama, 2015: Meteor storms and showers with the IMEX model. Proceedings of the IMC, Mistelbach, 2015.
2. E. Grün, R. Srama, M. Horanyi, H. Krüger, R. Soja, **V. Sterken**, Z. Sternovsky, P. Strub, 2013: Comparative analysis of the ESA and NASA interplanetary meteoroid environment models, 6th European Conference on Space Debris, ESA/ESOC Darmstadt, Germany, 22-25 April 2013.
3. **V.J. Sterken**, N. Altobelli, S. Kempf, G. Schwehm, R. Srama, P. Strub and E. Grün, 2011: The flow of interstellar dust through the solar system: the role of dust charging, ICPDP conference 2011, Garmisch-Partenkirchen, Germany.
4. P. Strub, **V.J. Sterken**, H. Krüger, E. Grün, M. Horanyi, 2011: Interstellar dust flow through the solar system. ICPDP conference 2011, Garmisch-Partenkirchen, Germany.
5. **V.J. Sterken**, 2006: Sir Hermann Bondi: A journey through his life and the early endeavours of Europe into space. IAC-06-E4.1.05. IAC conference 2006, Valencia, Spain.
6. **V.J. Sterken**, A. Kamp, S. Kampen, T.C. van den Dool, 2005: Impact of the space environment on Darwin and a Low Earth Orbit (LEO) demonstration mission. IAC-05-C.2.5. IAC conference 2005, Fukuoka, Japan.

Reports and Mission Proposals

1. V.J. Sterken, C. Lüthi, M. Gasser, C. Seiler, F. Hof, 2017: Contribution to the *Hochalpine Forschungsstation Jungfrauoch und Gornergrat* (HFSJG) year report: "Exploration of the Jochloch cave"
2. Blanc, M., et al., 2016: Joint Europa Mission (JEM): A Multi-scale Study of Europa to Characterize its Habitability and Search for extant Life. Proposal for ESA's Call for Medium Class Missions (M5)
3. Srama, R., et al., 2013: Solar System Debris Disk S2D2: Proposal for Science Themes of ESA's L2 and L3 Missions
4. Wimmer-Schweingruber, R.F., 2013: In situ Investigations of the Local Interstellar Medium (Proposal/ White Paper as a response to the Call for Science Themes of ESA's L2 and L3 Missions)
5. V.J. Sterken, 2012: PhD Thesis IGEP TU Braunschweig, "The filtering of interstellar dust in the heliosphere"
6. V.J. Sterken, N. Altobelli, S. Kempf, E. Grün, R. Srama, 2010: Contribution to MPIK year report: Characterizing the Interstellar Dust flow through the solar system
7. V.J. Sterken, 2006: Belgisch-Nederlandse samenwerking in de ruimtevaartsector. TNO report
8. V.J. Sterken, 2006: ESA Young Graduate Trainee Final Report
9. V.J. Sterken, 2005: Master's thesis at the Delft University of Technology: "Impact of the space and satellite environment on the optical path differences of Darwin", (TNO report no. 050006)
10. V.J. Sterken, M. Hechler, 2003: ESOC Mission Analysis Section Working Paper No. 458, "GAIA Mission Analysis: Use of FEEPs for orbit maintenance"
11. Co-author of the Alpbach Summer School report, 2002: "GLOTEC: Global real-time TEC-map Satellite Navigation System Reliability Forecast"
12. Co-author of the Bachelor group project final report, 2001: "MiMiR: Mission for Moon Ice Research"
13. Co-Author of the report on the Parabolic Flight Campaign experiment, 2000: Technical Description and Strength Calculations of the Test Set-up for Micro-gravity Experiments in the 2000 ESA Parabolic Flight Campaign for Group 1023". Delft University of Technology report no.FM&P-00.011 cat.h.

Outreach articles

1. V. Sterken, L. Kast: Interstellares Leben und Sterben, Megafon Nr. 449, November 2019
2. V. Sterken: ESRO: Europa's spannende eerste stappen in de ruimtevaart. Article for the magazine of the Dutch Space Society (NVR, Nederlandse Vereniging voor Ruimtevaart): "Ruimtevaart" nr. 2009/1

Editorial work

1. Co-editor of the SSSI-book Vol. 214, Issue 1. Cosmic Dust: from the Laboratory to the Stars. Publ. Springer.
2. Co-editor of the SSSI-book Vol. 205, Issue 1-4. From Disks to Planets: The Making of Planets and Their Early Atmospheres, publ. Springer. ISSN: 0038-6308 (Print) 1572-9672 (Online)

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