SASCHA KEMPF: CURRICULUM VITAE

Laboratory for Atmospheric and Space Physics
University of Colorado
1234 Innovation Drive
Boulder, CO 80303
Phone: (303) 619 7375
Email: Sascha.Kempf@colorado.edu

Department of Physics
Univ. Colorado
390 UCB
Boulder, CO 80309

Education:

2009, February	Habilitation (Planetology), Technical University, Braunschweig, Germany Thesis: *Saturnian Dust: Rings, Ice Volcanoes, and Streams*
1999, January	PhD (Astrophysics), Friedrich Schiller University, Jena, Germany Thesis: *Microphysics and dynamics of the Brownian dust growth in proto-planetary disks*
1994, January	Diploma (Physics), Humboldt University, Berlin, Germany Thesis: *Turbulent radiative transfer*

Professional Experience:

2011 – present	Assistant Professor Physics Department, University of Colorado
1998 – 2011	Research Scientist Max-Planck Institute, Heidelberg, Germany
1997 – 1998	Postdoc Friedrich Schiller University, Jena, Germany
1995 – 1997	PhD student Friedrich Schiller University, Jena, Germany
1994 – 1995	PhD student, Max-Planck Research Unit "Dust in Star Forming Regions", Jena, Germany
1992 – 1993	Research Assistant (Diploma student) Astrophysical Institute, Potsdam, Germany

Projects:

2015–	Europa Multiple Flyby Mission (NASA) Principle Investigator for the SUrface Dust Analyzer (SUDA)
2015–	Planetary Instrument Concepts for the Advancement of Solar System

	Observations (NASA) Co-Investigator: Towards Miniaturization of Instrumentation for In-Situ Organic Detection: Hands-Off PicoTOF
2013–2015	LDEX on Lunar Atmosphere and Dust Exosphere Explorer (LADEE) (NASA) Guest Scientist
2013–2015	Instrument Concepts for Europa Exploration Program (NASA) PI for the Surface Dust Analyser (SUDA)
2013–	NASA SSERVI-IMPACT Co-Investigator
2013–	Maturation of Instruments for Solar System Exploration (NASA) Co-Investigator for the Large Area Dust Detector
2009-2014	ISSI team "Enceladus as an active moon" Team Leader
2007-2012	moonNEXT, ESA lunar lander program Member of the science definition team
2007	LEOPARD (dust camera for the German Lunar mission LEO) instrument PI, instrument selected by the DLR
2006	TANDEM project (proposal for a mission to Titan and Enceladus)
since 1999	Cosmic Dust Analyser (CDA) on Cassini (NASA, ESA) since 2007 Deputy PI since 2000 Co-Investigator

Honors and Awards:

4 NASA Achievement Awards

Professional Organizations:

American Geophysical Union (AGU)
European Geophysical Union (EGU)

Publications:

Publications in peer-reviewed journals:

1. M. Sachse, J. Schmidt, **S. Kempf**, and F. Spahn. Correlation between speed and size for ejecta from hypervelocity impacts. *J. Geophys. Res.*, 2015, **120**, 1847–1858.

2. M. Horanyi, J. Szalay, **S. Kempf**, J. Schmidt, E. Grün, R. Srama, and Z. Sternovsky. A permanent, asymmetric dust cloud around the Moon. *Nature*, 2015, **522**, 324–326.

3. H.-W. Hsu, F. Postberg, Y. Sekine, T. Shibuya, **S. Kempf**, M. Horanyi, M., A. Juhasz, N. Altobelli7, K. Suzuki, Y. Masaki, T. Kuwatani, S. Tachibana, S. Sirono, G. Moragas-Klostermeyer, and R. Srama. Ongoing hydrothermal activities within Enceladus. *Nature*, 2015, **519**, 207-210.

4. B. S. Southworth*, **S. Kempf**, and J. Schmidt. Modeling Europa's Dust Plumes. *Geophys. Res. Lett.*, 2015.

5. C. S. Arridge et al.. The science case for an orbital mission to Uranus: Exploring the origins and evolution of ice giant planets. *Planet. Space Sci.*, 2014, **104**, 122–140.

6. M. Horanyi, Z. Sternovsky, M. R. Lankton, E. Grün, D. James, **S. Kempf**, and R. Srama. The Lunar Dust Experiment (LDEX) Onboard the Lunar Atmosphere and Dust Environment Explorer (LADEE) Mission. *Space Sci. Rev.*,2014, **185**, 49–113.

7. S.–Y. Ye, D. A. Gurnett, W. S. Kurth, T. F. Averkamp, **S. Kempf**, H.-W. Hsu, R. Srama, and E. Grün. Properties of dust particles near Saturn inferred from voltage pulses induced by dust impacts on Cassini spacecraft. *J. Geophys. Res.*, 2014, **119**, 6294-6312.

8. K. Fiege*, M. Trieloff, J. K. Hillier, M. Guglielmino, F. Postberg, R. Srama, **S. Kempf**, and J. Blum. Calibration of relative sensitivity factors for impact ionization detectors with high-velocity silicate microparticles. *Icarus*, **241**, 336-345.

9. Y. Li, **S. Kempf**, R. Srama, H. Henkel, and Z. Sternovsky. Instrument study of the Lunar Dust eXplorer (LDX) for a Lunar Lander Mission. *Adv. Space Res.*, 2014, **54**, 2094-2100.

10. L. O'Brien, S. Auer, A. J. Gemer, E. Grün, M. Horanyi, A. Juhasz, **S. Kempf**, D. Malaspina, A. Mocker, E. Moebius, R. Srama, and Z. Sternovsky. Development of the nano-dust analyzer (NDA) for detection and compositional analysis of nanometer-size dust particles originating in the inner heliosphere. *Rev. Sci. Instrum.*, 2014, **85**, 035113.

11. K. Otto, R. Srama, S. Auer, S. Bugiel, E. Grün, **S. Kempf**, and J. Xie. Application and calibration of a simple position detector for a dust accelerator. *Nucl. Instr. Meth. A*, 2013, **729**, 841–848.

12. H.-W. Hsu, **S. Kempf**, K.-C. Hansen, M. Horanyi, A. Mocker, G. Moragas-Klostermeyer, F. Postberg, R. Srama, and B. Zieger. Probing IMF using nanodust measurements from inside Saturn's magnetosphere. *Geophys. Res. Lett.*, 2013, **40**, 2902–2906.

13. V. J. Sterken, **S. Kempf**, N. Altobelli, H. Krüger, R. Srama, P. Strub, and E. Grün. The filtering of interstellar dust in the solar system. *Astron. & Astrophys.*, 2013, **552**, A130.

14. H.-W. Hsu, M. Horanyi, and **S. Kempf**. Dust and spacecraft charging in Saturn's E ring. *Earth Planets Space*, 2013, **65**, 149–156.

15. A. Mocker, K. Hornung, R. Srama, E. Grün, **S. Kempf**, A. Collette, K. Drake, M. Horanyi, T. Munsat, L. O'Brien, Z. Sternovsky, and R. Srama. On the application of a linear time-of-flight mass spectrometer for the investigation of hypervelocity impacts of micron and sub-micron sized dust particles. *Plan. Space Science*, 2013, **89**, 47–57.

16. A. Mocker, E. Grün, Z. Sternovsky, K. Drake, **S. Kempf**, K. Hornung, and R. Srama. On the applicability of laser ionization for simulating hypervelocity impacts. *J. Appl. Phys.*, 2012, **112**, 103301.

*Student as first author

17. V. J. Sterken*, R. Srama, N. Altobelli, **S. Kempf**, H. Krüger, F. Postberg, R. H. Soja, R. Srama, and E. Grün. An optimum opportunity for interstellar dust measurements by the JUICE mission. *Plan. Space Science*, 2012, **71**, 142–146.

18. J. K. Hillier, F. Postberg, S. Sestak, R. Srama, **S. Kempf**, M. Trieloff, Z. Sternovsky, and S. F. Green. Impact ionization mass spectra of anorthite cosmic dust analogue particles. *J. Geophys. Res.*, 2012, **117**, E09002.

19. A. Shu, A. Collette, K. Drake, E. Grün, M. Horanyi, **S. Kempf**, A. Mocker, T. Munsat, P. Northway, R. Srama, Z. Sternovsky, and E. Thomas. 3 MV hypervelocity dust accelerator at the Colorado Center for Lunar Dust and Atmospheric Studies. *Rev. Sci. Instrum.*, 2012, **83**, 075108–075108.

20. **S. Kempf**, R. Srama, E. Grün, A. Mocker, F. Postberg, J.K Hillier, M. Horanyi, Z. Sternovsky, B. Abel, A. Beinsen, R. Thissen, J. Schmidt, F. Spahn, and N. Altobelli. Linear high resolution dust mass spectrometer for a mission to the Galilean satellites. *Planet. Space Sci.*, 2012, **65**, 10–20.

21. H.-W. Hsu, M. Horanyi, **S.Kempf**, and E. Grün. Spacecraft charging near Enceladus *Geophys. Res. Lett.*, 2012, **39**, L06108.

22. R. Srama, H. Krüger, T. Yamaguchi, T. Stephan, M. Burchell, A. Kearsley, V. Sterken, F. Postberg, **S. Kempf**, E. Grün, N. Altobelli, P. Ehrenfreund, V. Dikarev, M. Horanyi, Z.Sternovsky, J. Carpenter, A. Westphal, Z. Gainsforth, A. Krabbe, J. Agarwal, H. Yano, J. Blum, H. Henkel, J. Hillier, P. Hoppe, M. Trieloff, H.-W. Hsu, A. Mocker, K. Fiege, S. F. Green, A. Bischoff, F. Esposito, R. Laufer, T. W. Hyde, G. Herdrich, S. Fasoulas, A. Jäckel, G. Jones, P. Jenniskens, A. Rotundi, and H.-P. Röser. SARIM PLUS-sample return of comet 67P/CG and of interstellar matter. *Experimental Astronomy*, 2012, **33**, 723–751.

23. V. Sterken*, N. Altobelli, **S. Kempf**, G. Schwehm, R. Srama, and E. Grün. The flow of interstellar dust into the solar system. *Astron. & Astrophys.*, 2012, **538**, A102.

24. C. S. Arridge, N. Andre, H. J. McAndrews, E. J. Bunce, M. Burger, K. C. Hansen, H.-W. Hsu, R. E. Johnson, G. H. Jones, **S. Kempf**, K. K. Khurana, N. Krupp, W. S. Kurth, J. S. Leisner, C. Paranicas, E. Roussos, C.T. Russell, P. Schippers, E.C. Sittler, H.T. Smith, M.F. Thomsen, M. F., and M.K. Dougherty. Mapping Magnetospheric Equatorial Regions at Saturn from Cassini Prime Mission Observations. *Space Sci. Rev.*, 2011, **164**, 1-83.

25. R. Srama, **S. Kempf**, G. Moragas-Klostermeyer, N. Altobelli, S. Auer, U. Beckmann, S. Bugiel, M.E Burton, T. Economou, H. Fechtig, K. Fiege, S.F. Green, M. Grande, O. Havnes, J.K. Hillier, S. Helfert, M. Horanyi, H.-W. Hsu, E. Igenbergs, E.K. Jessberger, T.V. Johnson, E. Khalisi, H. Krüger, G. Matt, A. Mocker, P.L. Lamy, G. Linkert, F. Lura, D. Möhlmann, G.E. Morfill, K. Otto, F. Postberg, M. Roy, J. Schmidt, G.H. Schwehm, F. Spahn, V.J Sterken, J. Svestka, V. Tschernjawski, E. Grün, and H.-P. Röser. The Cosmic Dust Analyser onboard Cassini: Ten years of discoveries. *CEAS Space Journal*, 2011, **2**, 3–16.

*Student as first author

26. F. Postberg, E. Grün, M. Horányi, **S. Kempf**, H. Krüger, R. Srama, Z. Sternovsky, and M. Trieloff. Compositional mapping of planetary moons by mass spectrometry of dust ejecta. *Planet. Space Sci.*, 2011, **59**, 1815–1825.

27. H.-W. Hsu*, F. Postberg, **S. Kempf**, M. M. TrieloffE. Burton, M. Roy, G. Moragas-Klostermeyer, and R. Srama. Stream particles as the probe of the dust-plasma-magnetosphere interaction at Saturn. *J. Geophys. Res.*, 2011, **116**, A09215.

28. A. Mocker, S. Bugiel, S. Auer, G. Baust, A. Colette, K. Drake, F. Fiege, E. Grün, F. Heckmann, S. Helfert, J.K. Hillier, **S. Kempf**, G. Matt, T. Mellert, T. Munsat, K. Otto, F. Postberg, H.-P. Röser, A. Shu, Z. Sternovsky, and R. Srama. A 2 MV Van de Graaff accelerator as a tool for planetary and impact physics research. *Rev. Sci. Instr.*, 2011, **82**, 095111.

29. H.-W. Hsu*, **S. Kempf**, F. Postberg, M. Trieloff, M. E. Burton, M. Roy, G. Moragas-Klostermeyer, and R. Srama. Cassini dust stream particle measurements during the first three orbits at Saturn. *J. Geophys. Res.*, 2011, **116**, A08213.

30. F. Postberg*, J. Schmidt, J. K. Hillier, **S. Kempf**, and R. Srama. A salt-water reservoir as the source of a compositionally stratified plume on Enceladus. *Nature*, 2011, **474**, 620-622.

31. S. Auer, G.M. Lawrence, E. Grün, H. Henkel, S. Kempf, R. Srama, and Z. Sternovsky. A self-triggered dust trajectory sensor. *Nucl. Instr. Meth. Phys. Res. A*, 2010, **622**, 74–82.

32. H.-W. Hsu*, **S. Kempf**, and C.M. Jackman. Observation of Saturnian stream particles in the interplanetary space. *Icarus*, 2010, **206**, 653–661.

33. **S. Kempf**, U. Beckmann, and J. Schmidt. How the Enceladus dust plumes feeds Saturn's E ring. *Icarus*, 2010, **206**, 446–457.

34. J. N. Cuzzi, J. A. Burns, S. Charnoz, R. N. Clark, J. E. Colwell, L. Dones, L. W. Esposito, G. Filacchione, R. G. French, M. M. Hedman, **S. Kempf**, E. A. Marouf, C. D. Murray, P. D. Nicholson, C. C. Porco, J. Schmidt, M. R. Showalter, L. J. Spilker, J. N. Spitale, R. Srama, M. Sremcevic, M. S. Tiscareno, and J. Weiss. An Evolving View of Saturn's Dynamic Rings. *Science*, 2010, **327**, 1470-1475.

35. R. Srama, W. Woiwode, F. Postberg, S. P. Armes, S. Fujii, D. Dupin, J. Ormond-Prout, Z. Sternovsky, **S. Kempf**, G. Moragas-Klostermeyer, A. Mocker, and E. Grün. Mass spectrometry of hyper-velocity impacts of organic micrograins. *Rapid Com. Mass Spec.*, 2009, **23**, 3895–3906.

36. G. H. Jones, C. S. Arridge, A. J. Coates, G. R. Lewis, S. Kanani, A. Wellbrock, D. T. Young, F. J. Crary, R. L. Tokar, R. J. Wilson, T. W. Hill, R. E. Johnson, D. G. Mitchell, J. Schmidt, **S. Kempf**, U. Beckmann, C. T. Russell, Y. D. Jia, M. K. Dougherty, J. H. Waite, and B. A. Magee. Fine jet structure of electrically charged grains in Enceladus' plume. *Geophys. Res. Lett.*, 2009, **36**, 16204.

*Student as first author

37. M. Horanyi, J.A. Burns, M.M. Hedman, G.H. Jones, and **S. Kempf**. Diffuse Rings. in *Saturn from Cassini-Huygens*, Springer, 2009, 509–534.

38. F. Postberg*, **S. Kempf**, D. Rost, T. Stephan, R. Srama, M. Trieloff, A. Mocker, and M. Görlich. Discriminating contamination from particle components in spectra of Cassini's dust detector CDA. *Planet. Space Sci.*, 2009, **57**, 1359–1374.

39. F. Postberg*, **S. Kempf**, J. Schmidt, N. Brilliantov, A. Beinsen, B. Abel, U. Buck, and R. Srama. Sodium salts in E–ring ice grains from an ocean below the surface of Enceladus. *Nature*, 2009, **459**, 1098–1101.

40. R. Srama, T. Stephan, E. Grün, N. Pailer, A. Kearsley, A. Graps, R. Laufer, P. Ehrenfreund, N. Altobelli, K. Altwegg, S. Auer, J. Baggaley, M. J. Burchell, J. Carpenter, L. Colangeli, F. Esposito, S. F. Green, H. Henkel, M. Horanyi, A. Jäckel, **S. Kempf**, N. McBride, G. Moragas-Klostermeyer, H. Krüger, P. Palumbo, A. Srowig, M. Trieloff, P. Tsou, Z. Sternovsky, O. Zeile, and H.-P. Röser. Sample return of interstellar matter (SARIM). *Experimental Astronomy*, 2009, **23**, 303–328.

41. A. Coustenis and 156 colleagues. TandEM: Titan and Enceladus mission. *Experimental Astronomy*, 2009, **23**, 893–946.

42. E. Grün, E., R. Srama, N. Altobelli, K. Altwegg, J. Carpenter, L. Colangeli, K.-H. Glassmeier, S. Helfert, H. Henkel, M. Horanyi, A. Jäckel, **S. Kempf**, M. Landgraf, N. McBride, G. Moragas-Klostermeyer, P. Palumbo, H. Scholten, A. Srowig, Z. Sternovsky, and X. Vo. DuneXpress. *Experimental Astronomy*, 2009, **23**, 981–999.

43. N. Andre, M. Blanc, S. Maurice, P. Schippers, E. Pallier, T. I. Gombosi, K. C. Hansen, D. T. Young, F. J. Crary, S. Bolton, E. C. Sittler, H. T. Smith, R. E. Johnson, R. A. Baragiola, A. J. Coates, A. M. Rymer, M. K. Dougherty, N. Achilleos, C. S. Arridge, S. M. Krimigis, D. G. Mitchell, N. Krupp, D. C. Hamilton, I. Dandouras, D. A. Gurnett, W. S. Kurth, P. Louarn, R. Srama, **S. Kempf**, H. J. Waite, L. W. Esposito, and J. T. Clarke. Identification of Saturn's magnetospheric regions and associated plasma processes: Synopsis of Cassini observations during orbit insertion. *Rev. Geophys.*, 2008, **46**.

44. S. Auer, E. Grün, **S. Kempf**, R. Srama, A. Srowig, Z. Sternovsky, and V. Tschernjawski. Characteristics of a dust trajectory sensor. *Rev. Sci. Instr.*, 2008, **79**, 084501.

45. G. H. Jones, E. Roussos, N. Krupp, U. Beckmann, A. J. Coates, F. J. Crary, I. Dandouras, V. V. Dikarev, M. K. Dougherty, P. Garnier, K. C. Hansen, A. R. Hendrix, G. B. Hospodarsky, R. E. Johnson, **S. Kempf**, K. K. Khurana, S. M. Krimigis, H. Krüger, W. S. Kurth, A. Lagg, H. J. McAndrews, D. Mitchell, C. Paranicas, F. Postberg, C. T. Russell, J. Saur, F. Spahn, D. F. Strobel, R. L. Tokar, J.-E. Wahlund, R. J. Wilson, J. Woch, and D. T. Young. The dust halo of Saturn's largest icy moon: Evidence of rings at Rhea? *Science*, 2008, **319**, 1380–1384.

46. **S. Kempf**. Interpretation of high rate dust measurements with the Cassini dust detector CDA. *Planet. Space Sci.*, 2008, **56**, 378–385.

*Student as first author

47. J. Schmidt, N. Brilliantov, F. Spahn, and **S. Kempf**. Slow dust in Enceladus' plume from condensation and wall collisions in tiger stripe fractures. *Nature*, 2008, **451**, 658-688.

48. **S. Kempf**, U. Beckmann, F. Postberg, R. Srama, T. Economou, J. Schmidt, F. Spahn, and E. Grün. The E ring in the vicinity of Enceladus I: Structure and properties of the Enceladus dust torus. *Icarus*, 2008, **193**, 420-437.

49. F. Postberg*, **S. Kempf**, R. Srama, S. Green, J. Hillier, N. McBride, and E. Grün. The E ring in the vicinity of Enceladus II: Signatures of Enceladus in the elemental composition of E ring particles. *Icarus*, 2008, **193**, 438-454.

50. J. K. Hillier, S. F. Green, N. McBride, N. Altobelli, F. Postberg, **S. Kempf**, J. P. Schwanethal, R. Srama, J. A. M. McDonnell, and E. Grün. Interplanetary dust detected by the Cassini CDA Chemical Analyser. *Icarus*, 2008, **190**, 643–654.

51. M. M. Hedman, J. A. Burns, M. S. Tiscareno, C. C. Porco, G. H. Jones, E. Roussos, N. Krupp, C. Paranicas, and **S. Kempf**. The Source of Saturn's G Ring. *Science*, 2007, **317**, 653–656.

52. N. Altobelli*, **S. Kempf**, V. Dikarev, R. Srama, S. Helfert, G. Moragas-Klostermeyer, M. Roy, and E. Grün. Cassini CDA in-situ measurements between Jupiter and Saturn. *J. Geophys. Res.*, 2007, **112**, A07105.

53. J. K. Hillier, S. F. Green, N. McBride, J. P. Schwanethal, F. Postberg, R. Srama, **S. Kempf**, G. Moragas-Klostermeyer, J. A. M. McDonnell, and E. Grün. The composition of Saturn's E ring. *Mon. Not. Roy. Astron. Soc.*, 2007, **377**, 1588–1596.

54. R. Srama, N. Altobelli, J. de Kam, **S. Kempf**, H. Krüger, S. Lera, G. Moragas-Klostermeyer, M. Rachev, A. Srowig, M. Landgraf, Q. Vo, and E. Grün. DUNE-eXpress – Dust astronomy with ConeXpress. *Adv. Space Res.*, 2006, **38**, 2093–2101.

55. R. Srama, **S. Kempf**, G. Moragas-Klostermeyer, S. Helfert, T. J. Ahrens, N. Altobelli, S. Auer, U. Beckmann, J. G. Bradley, M. Burton, V. V. Dikarev, T. Economou, H. Fechtig, S. F. Green, M. Grande, O. Havnes, J. K. Hillier, M. Horányi, E. Igenbergs, E. K. Jessberger, T. V. Johnson, H. Krüger, G. Matt, N. McBride, A. Mocker, P. Lamy, D. Linkert, G. Linkert, F. Lura, J. A. M. McDonnell, D. Möhlmann, G. E. Morfill, F. Postberg, M. Roy, G. H. Schwehm, F. Spahn, J. Svestka, V. Tschernjawski, A. J. Tuzzolino, R. Wäsch, and E. Grün. In-situ dust measurements in the inner Saturnian system. *Planet. Space Sci.*, 2006, **54**, 967-987.

56. J. K. Hillier, N. McBride, S. F. Green, **S. Kempf**, and R. Srama. Modelling CDA mass spectra. *Planet. Space Sci.*, 2006, **54**, 1007–1013.

57. **S. Kempf**, U. Beckmann, R. Srama, M. Horányi, S. Auer, and E. Grün. The electro-static potential of E ring particles. *Planet. Space Sci.*, 2006, **54**, 999–1006.

58. F. Spahn, N. Albers, M. Hörning, **S. Kempf**, A. V. Krivov, M. Makuch, J. Schmidt, and M. Sremĉevic. E ring dust sources: Implications from Cassini's dust measurements. *Planet. Space Sci.*, 2006, **54**, 1024–1032.

*Student as first author

59. F. Postberg*, **S. Kempf**, R. Srama, S. F. Green, J.K. Hillier, N. McBride, and E. Grün. Composition of Jovian Dust Stream Particles. *Icarus*, 2006, **183**, 122–134.

60. F. Spahn, J. Schmidt, N. Albers, M. Hörning, M. Makuch, M. Seiß, **S. Kempf**, R. Srama, V. Dikarev, S. Helfert, G. Moragas-Klostermeyer, A. Krivov, M. Sremĉevic, A. J. Tuzzolino, T. Economou, and E. Grün. Cassini Dust Measurements at Enceladus and implications for the origin of the E ring. *Science*, 2006, **311**, 1416–1418.

61. R. Srama, A. Srowig, M. Rachev, E. Grün, S. Auer, T. Conlon, A. Glasmachers, D. Harris, S. Helfert, **S. Kempf**, H. Linnemann, G. Moragas-Klostermeyer, and V. Tschernjawski. Development of an Advanced Dust Telescope. *Earth Moon and Planets*, 2005, **95**, 211–220.

62. N. Altobelli*, **S. Kempf**, H. Krüger, M. Landgraf, M. Roy, and E. Grün. Interstellar dust flux measurements by the Galileo dust instrument between the orbits of Venus and Mars. *J. Geophys. Res.*, 2005, **110**, A07102.

63. E. Grün, R. Srama, H. Krüger, **S. Kempf**, V. Dikarev, S. Helfert, and G. Moragas-Klostermeyer. 2002 Kuiper prize lecture: Dust Astronomy. *Icarus*, 2005, **174**, 1–14.

64. **S. Kempf**, R. Srama, F. Postberg, M. Burton, S. F. Green, S. Helfert, J. K. Hillier, N. McBride, J. A. M. McDonnell, G. Moragas-Klostermeyer, M. Roy, and E. Grün. Composition of Saturnian dust particles. *Science*, 2005, **307**, 1274–1276.

65. **S. Kempf**, R. Srama, M. Horanyi, M. Burton, S. Helfert, G. Moragas-Klostermeyer, M. Roy, and E. Grün. High-velocity streams of dust originating from Saturn. *Nature*, 2005, **433**, 289-291.

66. R. Srama, J. G. Bradley, E. Grün, T. J. Ahrens, S. Auer, A. M. Cruise, H. Fechtig, A. Graps, O. Havnes, A. Heck, S. Helfert, E. Igenbergs, E. K. Jeßberger, T. V. Johnson, **S. Kempf**, H. Krüger, P. Lamy, M. Landgraf, D. Linkert, F. Lura, J. A. M. McDonnel, D. Möhlmann, G. E. Morfill, G. Schwehm, M. Stübig, J. Svestka, A. J. Tuzzolino, R. Wäsch, and H. A. Zook. The Cassini Cosmic Dust Detector. *Space Sci. Rev.*, 2004, **114**, 465–518.

67. **S. Kempf**, R. Srama, N. Altobelli, S. Auer, V. Tschernjawski, J. Bradley, M. E. Burton, S. Helfert, T. V. Johnson, H. Krüger, G. Moragas-Klostermeyer, and E. Grün. Cassini between Earth and asteroid belt: First in-situ charge measurement of interplanetary dust grains. *Icarus*, 2004, **171**, 317–335.

68. H. Krüger, P. Geissler, M. Horanyi, A. Graps, **S. Kempf**, R. Srama, G. Moragas-Klostermeyer, R. Moissl, T. V. Johnson, and E. Grün. Jovian dust streams: A monitor of Io's volcanic plume activity. *Geophys. Res. Lett.*, 2003, **30**, 31.

69. N. Altobelli*, **S. Kempf**, E. Grün, M. Landgraf, and R. Srama. Cassini between Venus and Earth: Detection of interstellar grains. *J. Geophys. Res.*, 2003, **108**, 8032-8041.

70. S. Auer, E. Grün, R. Srama, **S. Kempf**, and R. Auer. The charge and velocity detector of the Cosmic Dust Analyser on Cassini. *Planet. Space Sci.*, 2002, **85**, 773-779

*Student as first author

71. J. Blum, G. Wurm, T. Poppe, **S. Kempf**, and T. Kosaza. First results from the cosmic dust aggregation experiment CODAG. *Adv. Space Res.*, 2002, **29**, 497–503.

72. E. Grün, **S. Kempf**, H. Krüger, G. Moragas-Klostermeyer, and R. Srama. Dust Astronomy. *Meteor. & Plan. Sci.*, 2003, **38**.

73. **S. Kempf** and S. Pfalzner. An effective algorithm for simulating diffusion-driven aggregation. *Comput. Phys. Com.*, 2001, **137**, 225–235.

74. J. Blum, G. Wurm, **S. Kempf**, T. Poppe, H. Klahr, T. Kozasa, M. Rott, T. Henning, J. Dorschner, R. Schräpler, H. U. Keller, W. J. Markiewicz, I. Mann, B. A. S. Gustafson, F. Giovane, D. Neuhaus, H. Fechtig, E. Grün, B. Feuerbacher, H. Kochan, L. Ratke, A. El Goresy, G. Morfill, S. J. Weidenschilling, G. Schwehm, K. Metzler, and W.-H. Ip. Growth and form of planetary seedlings: results from a microgravity aggregation experiment. *Phys. Rev. Let.*, 2000, **85**, 2426–2429.

75. **S. Kempf**, S. Pfalzner, and Th. Henning. N-particle-simulations of dust growth: I. Growth driven by Brownian motion. *Icarus*, 1999, **141**, 388–398.

76. J. Blum, G. Wurm, T. Poppe, **S. Kempf**, B. Fiethe, M. Giel, P. Offterdinger, D. Neuhaus, M. Rott, F. Giovanne, and B. Gustafson. The Cosmic Dust Aggregation Experiment CODAG. *Measurement Science & Technology*, 1999, **10**, 836–844.

77. J. Blum, G. Wurm, **S. Kempf**, and Th. Henning. The Brownian motion of dust particles in the solar nebula. *Icarus*, 1996, **124**, 441–451.

78. R. Sablotny, **S. Kempf**, J. Blum, and Th. Henning. Coagulation simulations for interstellar dust grains using an N-particle code. *Adv. Space Res.*, 1995, **15**, 55–58.

Peer-reviewed conference proceedings:

1. V. J. Sterken*, N. Altobelli, **S. Kempf**, G. Schwehm, R. Srama, P. Strub, and E. Grün. The flow of interstellar dust through the solar system: the role of dust charging. *AIP Conference Proceedings 1397*, 2011, **179**.

2. Z. Sternovsky, E. Grün, K. Drake, J. Xie, M. Horanyi, R. Srama, **S. Kempf**, F. Postberg, A. Mocker, and S. Auer Novel instrument for Dust Astronomy: Dust Telescope. In *Aerospace Conference*, 2011, IEEE, pp. 1-8.

3. H. W. Hsu*, **S. Kempf**, F. Postberg, R. Srama, C. M. Jackman, G. Moragas-Klostermeyer, S., Helfert, and E. Grün Interaction of the solar wind and stream particles: results from the Cassini dust detector in *Solar wind 12*, AIP Conference Proceedings, 2009, **1216**, 510.

4. N. Altobelli*, **S. Kempf**, M. Roy, R. Srama, S. Helfert, G. Moragas-Klostermeyer, and E. Grün. Preliminary results on analysis of the cosmic dust analyzer data between Jupiter and Saturn. in *Dust in Planetary Systems* (Ed. H. Krüger and A. Graps), 2007, 213-217.

*Student as first author

5. E. Grün, R. Srama, S. Helfert, **S. Kempf**, G. Moragas-Klostermeyer, H. Krüger, N. Altobelli, S. Auer, V. Dikarev, D. Harris, M. M. Horanyi Rachev, A. Srowig, and Z. Sternovsky. Prospects of Dust Astronomy Missions. in *Dust in Planetary Systems* (Ed. H. Krüger and A. Graps), 2007, 245–249.

6. R. Srama, A. Srowig, S. Auer, D. Harris, S. Helfert, **S. Kempf**, G. Moragas-Klostermeyer, and E. Grün A Trajectory Sensor for Sub-micron Sized Dust. in *Dust in Planetary Systems* (Ed. H. Krüger and A. Graps), 2007, 213–217.

7. R. Srama, S. Kempf, G. Moragas-Klostermeyer, M. Landgraf, S. Helfert, Z. Sternovsky, M. Rachev, and E. Grün. Laboratory Tests of the Large Area Mass Analyser. in *Dust in Planetary Systems* (Ed. H. Krüger and A. Graps), 2007, 209–212.

8. N. McBride, J. K. Hillier, S. F. Green, R. Srama, **S. Kempf**, F. Postberg, G. Moragas-Klostermeyer, J. A. M. McDonnell, and E. Grün. Cassini Cosmic Dust Analyser: Composition of Dust at Saturn. in *Dust in Planetary Systems* (Ed. H. Krüger and A. Graps), 2007, 107–110.

9. S. Auer, **S. Kempf**, and E. Grün Computed Electric Charges of Grains with Highly Irregular Shapes. in *Dust in Planetary Systems* (Ed. H. Krüger and A. Graps), 2007, 177-180.

10. E. Grün, V. Dikarev, P. C. Frisch, A. Graps, **S. Kempf**, H. Krüger, M. Landgraf, G. Moragas-Klostermeyer, and R. Srama. Dust in Interplanetary Space and in the Local Galactic Environment. in *Astrophysics of Dust*, 2004, 245-+

11. N. Altobelli*, **S. Kempf**, H. Krüger, M. Landgraf, R. Srama, and E. Grün. In-Situ Monitoring of Interstellar Dust in the Inner Solar System. In *The Spectral Energy Distributions of Gas-Rich Galaxies: Confronting Models with Data* (Ed. C. C. Popescu and R. J. Tuffs), 2005, 149–154.

*Student as first author