

## ANGELA SPECK - PUBLICATIONS

Total publications: 52 peer-reviewed, ~50 conference proceedings, >100 conference presentations, *h*-factor = 22, total citations >1200.

\* denotes undergraduate, † denotes graduate student and ‡ denotes postdoctoral researcher advised by Angela Speck.

### **Manuscripts in preparation:**

- A. Arrant, D.J.†, **Speck, Angela K.**, Chan, S. J.‡, “The effect of chemical abundance on the dust condensation in O-rich circumstellar environments”, submitted to *Monthly Notices of the Royal astronomical Society*, expected submission July 2013
- B. Reel, M.,\* **Speck, Angela K.**, Corman, Adrian B.†, Volk, Kevin, Sloan, G.C., Barlow, M.J., “The effect of pulsation on dust formation: the case of V Cyg”, expected submission August 2013.
- C. **Speck, Angela K.**, Pitman, K. M., Hofmeister, A. M., “Better Alternatives to ‘Astronomical Silicate’: Laboratory-Based Optical Functions of Glass With Chondritic/Solar Abundances With Application to HD 161796”, expected submission August 2013.
- D. Arrant, D.J.†, **Speck, Angela K.**, Chan, S. J.‡, “The effect of chemical abundance on the dust condensation in O-rich circumstellar environments”, submitted to *Monthly Notices of the Royal astronomical Society*, expected submission August 2013
- E. Caputo, D.†, **Speck, Angela K.**, Barlow, M. J., Wesson, R., Clayton, G. C., “Formation of PAHs around carbon stars”, expected submission September 2013
- F. Williams, L.A., **Speck, Angela K.**, Arrant, D.J., “The effect of aluminum on the spectral features of silicate glasses”, expected submission September 2013

### **Refereed Publications:**

1. Messenger, S. J.\*, **Speck, Angela K.**, Volk, K. “Probing the ‘30 $\mu$ m’ feature: lessons from extreme C stars”, 2013, *Astrophysical Journal*, **764**, 142.
2. Pitman, K. M., Hofmeister, A. M., & Speck, A. K., “Revisiting astronomical crystalline forsterite in the UV to near-IR”, 2013, *Earth, Planets, Space*, **65**, 129-138.
3. Bose, Maitrayee, Floss, Christine, Stadermann, Frank J., Stroud, Rhonda M., **Speck, Angela K.**, “Circumstellar and interstellar material in the CO3 chondrite ALHA77307: An isotopic and elemental investigation”, *Geochim. Cosmochim. Acta*, 2012, **93**, 77-101,
4. **Speck, A.K.**, “Variable Stars & The Asymptotic Giant Branch: Stellar Pulsations, Dust Production and Mass Loss”, *Journal of the American Association of Variable Star Observers*, 2012, **40**, 244-255.
5. Henry, R., **Speck, Angela K.**, Karakas, A., Ferland, G., “The Curious Conundrum Regarding Sulfur And Oxygen Abundances In Planetary Nebulae”, 2012, *Astrophysical Journal*, **749**, 61.
6. Creech-Eakman, M. J., Güth, T., Luttermoser, D. G., Jurgenson, C. A., **Speck, A. K.** “An Interferometrically Derived Sample of Miras with Phase using Spitzer: Paper I - A First Look”, 2012, *Astronomical Review*, **7**,(1), 2-24.
7. Guha-Niyogi, S.†, **Speck, Angela K.**, Volk, K. “Investigating spatial distribution of dust around SW Vir”, 2011, *Astronomical Review*, **6**,(8), 27-38.
8. **Speck, Angela K.**, Whittington, A.G., Tartar, J.B.†, Hofmeister. A.M., “Disordered Silicates in Space: a Study of Laboratory Spectra of ‘Amorphous’ Silicates”, 2011, *Astrophysical Journal*, **740**, 93-109.
9. Clayton, G.C., De Marco, O., Whitney, B., Babler, B., Gallagher, J. S., Nordhaus, J.C., **Speck, A.K.**, Wolff, M.J., Freeman, W.R, Camp, K.R., Lawson, W.A., Roman-Duval, J., Misselt, K.A., Meade, M., Sonneborn, G., Matsuura, M., and Meixner, M. “The Dust Properties of Hot R Coronae Borealis Stars and a Wolf-Rayet Central Star of a Planetary Nebula: in Search of the Missing Link” 2011, *Astronomical Journal*, **142**, 54-60.

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10. Guha Niyogi, S.<sup>†</sup>, **Speck, Angela K.**, Onaka, T. "The effect of stellar pulsation cycles on dust formation: a temporal study of mid-infrared spectra of O-rich AGB star, T Cep", 2011, *Astrophysical Journal*, **733**, 93-107.
11. Woods, Paul M., Oliveira, J. M., Kemper, F., van Loon, J. Th., Sargent, B. A., Matsuura, M., Szczerba, R., Volk, K., Zijlstra, A. A., Sloan, G. C., Lagadec, E., McDonald, I., Jones, O., Gorjian, V., Kraemer, K. E., Gielen, C., Meixner, M., Blum, R. D., Sewilo, M., Riebel, D., Shiao, B., Chen, C.-H. R., Boyer, M. L., Indebetouw, R., Antoniou, V., Bernard, J.-P., Cohen, M., Dijkstra, C., Galametz, M., Galliano, F., Gordon, Karl D., Harris, J., Hony, S., Hora, J. L., Kawamura, A., Lawton, B., Leisenring, J. M., Madden, S., Marengo, M., McGuire, C., Mulia, A. J., O'Halloran, B., Olsen, K., Paladini, R., Paradis, D., Reach, W. T., Rubin, D., Sandstrom, K., Soszyński, I., **Speck, A. K.**, Srinivasan, S., Tielens, A. G. G. M., van Aarle, E., van Dyk, S. D., van Winckel, H., Vijh, Uma P., Whitney, B., Wilkins, A. N. "The SAGE-Spec Spitzer Legacy programme: the life-cycle of dust and gas in the Large Magellanic Cloud - Point source classification I", 2011, *Monthly Notices of the Royal Astronomical Society*, **411**, 1597-1627.
12. Srinivasan, S., Sargent, B.A., Matsuura, M., Meixner, M., Gordon, K, Indebetouw, R., Kemper, F., Marengo, M., **Speck, A.K.**, Sloan, G.C., Tielens, A. G. G. M., van Loon, J. Th., Volk, K., Woods, P., "The Mass-Loss Return From Evolved Stars To The Large Magellanic Cloud III: Dust Properties For Carbon-Rich Asymptotic Giant Branch Stars", 2010, *Astronomy & Astrophysics*, **524**, A49 (10pg) .
13. Kemper, F., Woods, Paul M., Antoniou, V., Bernard, J. -P., Blum, R. D., Boyer, M. L., Chan, J., Chen, C. -H. R., Cohen, M., Dijkstra, C., Engelbracht, C., Galametz, M., Galliano, F., Gielen, C., Gordon, Karl D., Gorjian, V., Harris, J., Hony, S., Hora, J. L., Indebetouw, R., Jones, O., Kawamura, A., Lagadec, E., Lawton, B., Leisenring, J. M., Madden, S. C., Marengo, M., Matsuura, M., McDonald, I., McGuire, C., Meixner, M., Mulia, A. J., O'Halloran, B., Oliveira, J. M., Paladini, R., Paradis, D., Reach, W. T., Rubin, D., Sandstrom, K., Sargent, B. A., Sewilo, M., Shiao, B., Sloan, G. C., **Speck, A. K.**, Srinivasan, S., Szczerba, R., Tielens, A. G. G. M., van Aarle, E., Van Dyk, S. D., van Loon, J. Th., Van Winckel, H., Vijh, Uma P., Volk, K., Whitney, B. A., Wilkins, A. N., Zijlstra, A. A., "The SAGE-Spec Spitzer Legacy program: The life-cycle of dust and gas in the Large Magellanic Cloud", 2010, *Publications of the Astronomical Society of the Pacific*, **122**, 683-700.
14. Pitman K.M.<sup>‡</sup>, Hofmeister A.M., **Speck A.K.**, Dijkstra C.R.<sup>‡</sup>, "Infrared laboratory absorbance spectra of olivine: Using classical dispersion analysis to extract peak parameters and optical constants temperature forsterite and fayalite absorbances", 2010, *Monthly Notices of the Royal Astronomical Society*, **406**, 460-481.
15. Sargent, B. A., Srinivasan, S., Meixner, M., Kemper, F., Tielens, A. G. G. M., **Speck, Angela K.**, Matsuura, M., Bernard, J.-Ph., Hony, S., Gordon, K.D., Indebetouw, R., Marengo, M., Sloan, G. C., Woods, P.M. SAGE-Spec Team "The Mass-Loss Return from Evolved Stars to the Large Magellanic Cloud II: Dust Properties for Oxygen-Rich Asymptotic Giant Branch Stars", 2010, *Astrophysical Journal*, **716**, 878-890.
16. Ueta, T., Stencel, R. E., Yamamura, I., Geise, K. M., Karska, A., Izumiura, H., Nakada, Y., Matsuura, M., Ita, Y., Tanabe, T., Fukushi, H., Matsunaga, N., Mito, H., **Speck, A. K.**, "The interface between the stellar wind and interstellar medium around R Cassiopeiae revealed by far-infrared imaging", 2010, *Astronomy & Astrophysics*, **514**, 16-21.
17. Oliveira, J. M., van Loon, J. Th., Chen, C.-H. R., Tielens, A. G. G. M., Sloan, G. C., Woods, P. M., Kemper, F., Indebetouw, R., Gordon, K. D., Boyer, M. L., Shiao, B., Madden, S., **Speck, A. K.**, Meixner, M., Marengo, M., "Ice Chemistry in Embedded Young Stellar Objects in the Large Magellanic Cloud" 2009, *Astrophysical Journal*, **707**, 1269-1295.
18. Matsuura, M., **Speck, A.K.** McHunu, B.M.<sup>†</sup>, Tanaka, I., Wright, N.J., Smith, M.D., Viti, S., Zijlstra, A.A., "A 'firework' of H<sub>2</sub> knots in the Planetary Nebula NGC7293 (the Helix Nebula)", 2009, *Astrophysical Journal*, **700**, 1067-1077.

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19. Hofmeister, A.M., Pitman, K.M.<sup>‡</sup>, Goncharov, A.F., **Speck, A.K.**, “Optical Constants of Silicon Carbide for Astrophysical Applications. II. Extending Optical Functions from IR to UV Using Single-Crystal Absorption Spectra”, 2009, *Astrophysical Journal*, **696**, 1502-1516.
20. **Speck, Angela K.**, Corman, Adrian B.<sup>†</sup>, Wakeman, Kristina\*, Wheeler, Caleb H.\*, Thompson, Grant,\* “Silicon carbide absorption features: dust formation in the outflows of extreme carbon stars”, 2009, *Astrophysical Journal*, **691**, 1202-1221.
21. **Speck, Angela K.**, Whittington, Alan. G., Tartar, Josh B.<sup>†</sup>, “The Cosmic Crystallinity Conundrum: clues from IRAS 17495-2534”, 2008, *Astrophysical Journal Letters*, **687**, L91-L94.
22. Gruendl, R.A., Chu, Y.-H., Seale, J. P., Matsuura, M., **Speck, A. K.**, Sloan, G. C., Looney, L. W., “Discovery of extreme carbon stars in the Large Magellanic Cloud”, 2008, *Astrophysical Journal Letters* **688**, L9-L12.
23. Pitman K.M.<sup>‡</sup>, Hofmeister A.M., **Speck A.K.**, “Optical properties of silicon carbide for astrophysical applications: I. New laboratory infrared reflectance spectra and optical constants”, 2008, *Astronomy & Astrophysics*, **483**, 661-672.
24. Nuankhieo, P., Ruzhitskaya, L.<sup>†</sup>, Moore, L. J., & **Speck, A.** “Affordances of An Astronomy Laboratory Simulation”, 2008, *Academic Exchange Quarterly*, **12(4)**,136-141.
25. Matsuura, M., **Speck, A.K.**, Smith, M.D. , Zijlstra, A.A., Lowe, K.T.E., Viti, S., Redman, M., Wareing, C.J., Lagadec, E., “VLT / Infrared Integral Field Spectrometer Observations of Molecular Hydrogen Lines in the Globules in the Planetary Nebula NGC 7293 (the Helix Nebula)”, 2007, *Monthly Notices of the Royal Astronomical Society*, **382**, 1447-1459.
26. Grant D. Thompson\*, Adrian B. Corman<sup>†</sup>, **Angela K. Speck**, & Catharinus Dijkstra<sup>‡</sup>, “Challenging the Carbon Star Dust Condensation Sequences: Anarchist C-Stars”, 2006, *Astrophysical Journal*, **652**, 1654-1673.
27. Dijkstra, C.<sup>‡</sup>, & **Speck, A.K.**, “Shaping Bipolar Planetary Nebulae: How Mass Loss Leads to Waistline Development ”, 2006, *Astrophysical Journal*, **651**, 288-293.
28. **Angela K. Speck**, Jan Cami, Ciska Markwick-Kemper, Jarron Leisenring, Ryszard Szczerba, Catharinus Dijkstra<sup>‡</sup>, Schuyler Van Dyk, & Margaret Meixner, “The Unusual Spitzer Spectrum of the Carbon Star IRAS 04496-6958: A Different Condensation Sequence in the LMC?”, 2006, *Astrophysical Journal*, **650**, 892-900.
29. C. Wareing, A. Zijlstra, T. Ueta, **A. K. Speck**, R. E. Stencel, M. Elitzur, R. Gertz, F. Herwig, H. Izumiura, W. Latter, M. Matsuura, M. Meixner, M. Steffen, & R. Szczerba “Detached shells as tracers of AGB-ISM bow shocks” 2006, *Monthly Notices of the Royal Astronomical Society*, **372**, L63-L67.
30. K. M. Pitman<sup>‡</sup>, **A. K. Speck** & A. M. Hofmeister, “Challenging the Identification of Nitride Dust in Extreme Carbon Star Spectra”, 2006, *Monthly Notices of the Royal Astronomical Society*, **371**, 1744-1754.
31. T. Ueta, **A. K. Speck**, R. E. Stencel, M. Elitzur, R. Gertz, F. Herwig, H. Izumiura, W. Latter, M. Matsuura, M. Meixner, M. Steffen, R. Szczerba, & A. Zijlstra, “Detection of a Bow-Shock-Like Far-IR Nebula Associated with R Hya: the First MIRIAD Results”, 2006, *Astrophysical Journal Letters*, **648**, L39-L42.
32. Ben E. K. Sugerman, Barbara Ercolano, M. J. Barlow, A. G. G. M. Tielens, Geoffrey C. Clayton, Albert A. Zijlstra, Margaret Meixner, **Angela Speck**, Tim M. Gledhill, Nino Panagia, Martin Cohen, Karl D. Gordon, Martin Meyer, Joanna Fabbri, Janet. E. Bowey, Douglas L. Welch, Michael W. Regan & Robert C. Kennicutt, Jr. “Massive-Star Supernovae as Major Dust Factories”, 2006, *Science*, **313**, 196-200.
33. DePew, Kyle<sup>†</sup>, **Speck, Angela**, Dijkstra, Catharinus<sup>‡</sup>, “Astromineralogy of the 13  $\mu\text{m}$  feature in the spectra of oxygen-rich asymptotic giant branch stars. I. Corundum and spinel”, 2006, *Astrophysical Journal*, **640**, 971-981.

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34. **Speck, Angela K.**, Thompson, Grant D.\*, Hofmeister, Anne M., "The Effect of Stellar Evolution on SiC Dust Grain Sizes", 2005, *Astrophysical Journal*, **634**, 426-435.
35. Dijkstra, C.<sup>‡</sup>, **Speck, A.K.**, Reid, R. B.\*, Abraham, P., "The 10  $\mu\text{m}$  Feature of M-Type Stars in the Large Magellanic Cloud and the Dust Condensation Sequence" 2005, *Astrophysical Journal Letters*, **633**, 133-136.
36. Meixner, M., McCullough, P.R., Hartman, J., Son. M., **Speck, A.K.**, "Molecular Hydrogen Knots in the Helix Nebula" 2005, *Astronomical Journal*, **130**, 1784-1794.
37. **Speck, A.K.**, Hofmeister, A.M., "Processing of presolar grains around post-AGB stars: silicon carbide as the carrier of the  $\sim 21 \mu\text{m}$  feature.", 2004, *Astrophysical Journal*, **600**, 986-991.
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39. Hofmeister, A.M., Keppel, E. & **Speck, A.K.**, "Absorption and reflection infrared spectra of MgO and other diatomic compounds" 2003, *Monthly Notices of the Royal Astronomical Society*, **345**, 16-38.
40. **Speck, A.K.**, Meixner, M., Jacoby, G.H. & Knezek, P., "Molecular hydrogen in the Ring Nebula: clumpy photo-dissociation regions" 2003, *Publications of the Astronomical Society of the Pacific*, **115**, 170-177.
41. Meixner, M., Ueta, T., Bobrowsky, M., & **Speck, A.K.**, "Two Subclasses of ProtoPlanetary Nebulae: Model Calculations" 2002, *Astrophysical Journal*, **571**, 936-946.
42. **Speck, A.K.**, Meixner, M., Fong, D., McCullough, P.R., Moser, D.\* & Ueta, T., "Large-scale extended emission around the Helix Nebula: dust, molecules, atoms and ions." 2002, *Astronomical Journal*, **123**, 346-361.
43. **Speck, A.K.**, Meixner, M. & Knapp, G.R., "Discovery of parsec-sized dust shells around AFGL2688 and AFGL 618" 2000, *Astrophysical Journal Letters* , **545**, L145-L148.
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45. **Speck, A.K.**, Hofmeister, A.M., & Barlow, M.J., "Silicon Carbide: The Problem with Laboratory Spectra" 2000, In *Thermal Emission Spectroscopy of Dust, Disks, and Regoliths*, Eds: Sitko M.L., Sprague A.L. & Lynch D.K., ASP Conference Series, vol. 196, 281-290.
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47. Bowey, J. E., Adamson, A. J., **Speck, A.K.**, "Simulation of 10 $\mu\text{m}$  Astronomical Spectra with Mixtures of Crystalline and Amorphous Silicates" 2000, In *Thermal Emission Spectroscopy of Dust, Disks, and Regoliths*, Eds: Sitko M.L., Sprague A.L. & Lynch D.K., ASP Conference Series, vol. 196, 31-39.
48. **Speck, A.K.**, Hofmeister, A.M., & Barlow, M.J., "The silicon carbide problem: astronomical and meteoritic evidence" 1999, *Astrophysical Journal Letters* , **513**, L87-L90.
49. Cohen, M., Barlow, M.J., Sylvester, R.J., Liu, X.-W., Cox, P., Lim, T., Scmitt, B. & **Speck, A.K.**, "Ice, silicates and PAH emission features in the ISO spectrum of the carbon-rich planetary nebula CPD-56 8032" 1999, *Astrophysical Journal Letters* , **513**, L135-L138.
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52. Franchi, I.A., Bland, P., Berry, F.J., **Speck, A.**, & Pillinger, C.T., "The influence of weathering on the measured oxygen isotopic composition of ordinary chondrites" 1994, *Meteoritics*, **29**, 467.

### White papers/ book chapters etc:

53. Karly M. Pitman, **Angela K. Speck**, Anne M. Hofmeister and Adrian B. Corman, "Optical Properties and Applications of Silicon Carbide in Astrophysics" Chapter 11 in "Silicon Carbide - Materials, Processing and Applications in Electronic Devices", Edited by: Moumita Mukherjee, Publisher: InTech, October 2011
54. Sahai, R., Balick, B., Blackman, E., Kastner, J., Claussen, M., Morris, M., De Marco, O., **Speck, Angela**, Frank, A., Turner, N., "Understanding Mass-Loss and the Late Evolution of Intermediate Mass Stars: Jets, Disks, Binarity, Dust, and Magnetic Fields" in *Astro2010: The Astronomy and Astrophysics Decadal Survey, Science White Papers*, no. 256.
55. The Science Vision for the Stratospheric Observatory for Infrared Astronomy (SOFIA).

### Conference Proceedings:

56. **Speck, Angela K.**, 2012, "Variable Stars & The Asymptotic Giant Branch: Stellar Pulsations, Dust Production and Mass Loss" in the Proceedings of Resolving the Future of Astronomy with Long-Baseline Interferometry. Conference held in Socorro, NM, 28-30 March 2011, *in press*.
57. Henry, R. B. C., **Speck, A.**, Karakas, A. I., Ferland, G. J., 2011, "The curious conundrum regarding sulfur and oxygen abundances in planetary nebulae" in the proceedings of the IAU Symposium No. 283, "Planetary Nebulae: An Eye to the Future".
58. Pitman, K. M., Dijkstra, C., Hofmeister, A. M., **Speck, A. K.** "IR Laboratory Olivine Spectra: Extracting Peak Parameters Using Classical Dispersion Analysis", 2011, in "Why Galaxies Care about AGB Stars II: Shining Examples and Common Inhabitants". Proceedings of a conference held at University Campus, Viena, Austria, 16-20 August 2010. Edited by F. Kerschbaum, T. Lebzelter, and R.F. Wing. San Francisco: Astronomical Society of the Pacific, **445**, 2011., p.363
59. Guha Niyogi, S.<sup>†</sup>, **Speck, A.**, Dijkstra, C., "Temperature and Compositional Effects on Spectral Features of the Olivine Minerals" 2011, in Why Galaxies Care about AGB Stars II: Shining Examples and Common Inhabitants. Proceedings of a conference held at University Campus, Viena, Austria, 16-20 August 2010. Edited by F. Kerschbaum, T. Lebzelter, and R.F. Wing. San Francisco: Astronomical Society of the Pacific, **445**, 2011., p. 357.
60. de Marco, O., Frank, A., Kastner, J., Sahai, R., Balick, B., Blackman, E., Carroll, J., Chesneau, O., Chu, Y.-H., Claussen, M., Gomez, Y., Guazzotto, L., Haig, C., Hrivnak, B., Huggins, P., Lopez, A., Sokoloski, J. L., Miszalski, B., Montez, R., Morris, M., Nordhaus, J., Sam Yu, Y., Schester, E., Shroyer, B., **Speck, A.**, Steffen, W., Szczerba, R., Tanny, S., Ueta, T., van Winckel, H., Velasquez, P. F., Vlemmings, W., Yirak, K. "The Rochester White Paper: A Roadmap for Understanding Aspherical Planetary Nebulae" 2010, in the Proceedings of *Asymmetric Planetary Nebulae 5 conference*, held in Bowness-on-Windermere, U.K., 20 - 25 June 2010, A. A. Zijlstra, F. Lykou, I. McDonald, and E. Lagadec, eds. (2011) Jodrell Bank Centre for Astrophysics
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62. Matsuura, M., **Speck, A. K.**, McHunu, B. M.<sup>†</sup>, Tanaka, I., Wright, N. J., Smith, M. D., Viti, S., Zijlstra, A. A. "Structure of H<sub>2</sub> molecular knots in the Helix and Dumbbell nebulae", 2010, in the Proceedings of

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63. Ueta, Toshiya, Izumiura, Hideyuki, Yamamura, Issei, Stencel, Robert E., Nakada, Yoshikazu, Matsuura, Mikako, Ita, Yoshifusa, Tanabe, Toshihiko, Fukushi, Hinako, Matsunaga, Noriyuki, Mito, Hiroyuki, **Speck, Angela K.**, “3-D Dynamics of Interactions between Stellar Winds and the Interstellar Medium as Seen by AKARI and Spitzer”, 2010, in the Proceedings of *AKARI, a Light to Illuminate the Misty Universe*, editors: Onaka, Takashi, White, Glenn, Nakagawa, Takao, Yamamura, Issei, ASP Conference Series, **418**, 117.
  64. Ueta, Toshiya, Stencel, Robert E., Yamamura, Issei, Izumiura, Hideyuki, Nakada, Yoshikazu, Matsuura, Mikako, Ita, Yoshifusa, Tanabe, Toshihiko, Fukushi, Hinako, Matsunaga, Noriyuki, Mito, Hiroyuki, **Speck, Angela K.**, “Mass Loss History of the AGB star, R Cas”, 2010, in the Proceedings of *AKARI, a Light to Illuminate the Misty Universe*, editors: Onaka, Takashi, White, Glenn, Nakagawa, Takao, Yamamura, Issei, ASP Conference Series, **418**, 463.
  65. Niyogi, Suklima Guha<sup>†</sup>, **Speck, Angela**, “The Effect Of Stellar Pulsation Cycles On Dust Formation: A Temporal Study Of Mid-infrared Spectrum Of O-rich AGB Star, T Cep”, 2009, in *Stellar Pulsation: Challenges For Theory And Observation: Proceedings of the International Conference. AIP Conference Proceedings*, Vol. 1170, p. 155-157.
  66. Creech-Eakman, M. J., Hora, J., Ivezic, Z., Jurgenson, C., Luttermoser, D., Marengo, M., **Speck, A.**, Stencel, R., Thompson, R. R., “Multiwavelength Study of Pulsation and Dust Production in Mira Variables Using Optical Interferometry for Constraints”, 2009, in *Stellar Pulsation: Challenges For Theory And Observation: Proceedings of the International Conference. AIP Conference Proceedings*, Vol. 1170, pp. 137-140.
  67. Ruzhitskaya, L.<sup>†</sup> & **Speck, A.** (2008). “Computer-Based Simulation: Stimulating Learning in Astronomy”. In *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2008* (pp. 5389-5396). Chesapeake, VA: AACE.
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  71. Adrian Corman<sup>†</sup>, Grant Thompson\*, **Angela Speck** & Catharinus Dijkstra<sup>‡</sup>, “Mythbusting the Carbon Star Dust Condensation Sequence”, 2007, in Proceedings of *Why Galaxies Care About AGB Stars*, editors: F. Kerschbaum, C. Charbonnel & R. Wing, ASP Conference Series, Vol. 378, p.281.
  72. K.M. Pitman<sup>‡</sup>, A. M. Hofmeister, **A. K. Speck**, “Challenging the Identification of Nitride Dust in Extreme Carbon Star Spectra”, 2007, in Proceedings of *Why Galaxies Care About AGB Stars*, editors: F. Kerschbaum, C. Charbonnel & R. Wing, ASP Conference Series, Vol. 378, p.331.
  73. **Angela Speck**, Toshiya Ueta and the MIRIAD TEAM, “Spitzer/MIPS Imaging of the Extremely Extended Dust Shell(s) around R Hya”, 2006, In Proceedings of *IAU Symposium 234: Planetary Nebulae in Our Galaxy and Beyond*, editors: M.J. Barlow. & R.H. Mendez, p. 515
  74. Adrienne Dove\*, **Angela Speck**, “CLOUDY modeling of weird Far-IR emission in the central zone of the Helix Nebula”, 2006, In Proceedings of *IAU Symposium 234: Planetary Nebulae in Our Galaxy and Beyond*, editors: M.J. Barlow. & R.H. Mendez, p. 389

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75. Josh Tartar<sup>†</sup>, Sarah Eyermann<sup>†</sup>, **Angela Speck**, Margaret Meixner, “HST Study of the Molecular Gas in Planetary Nebulae”, 2006, In Proceedings of *IAU Symposium 234: Planetary Nebulae in Our Galaxy and Beyond*, editors: M.J. Barlow. & R.H. Mendez, p. 525.
76. C. Dijkstra<sup>‡</sup>, **A. K. Speck**, R.B. Reid\*, C. Markwick-Kemper, J. Leisenring, “Circumstellar dust in the Large Magellanic Cloud”, 2006, In Proceedings of *Stellar Evolution at Low Metallicity: Mass Loss, Explosions, Cosmology*, editors: Lamers, Langer, Nugis & Annuk, ASP Conference Series, Vol. 353, p 225.
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### **Selected Abstracts** (i.e. abstracts that did not subsequently become conference proceedings papers)

1. The Effect of Composition on the Spectral Features of Silicate Glasses: The Effect of Aluminium – ORAL  
**Angela Speck**; Alan G. Whittington; Anne M. Hofmeister  
American Astronomical Society Meeting 222, Indianapolis, IN, June 2013, #110.01
2. Inclusive Design for Learning – Making Your Classroom Accessible – ORAL  
**Angela Speck**; Gina Ceylan  
American Astronomical Society Meeting 222, Indianapolis, IN, June 2013, #201.02
3. New Laboratory-Based Optical Functions of Cosmic Abundance Glass: Comparison to "Astronomical Silicates" and Application to Post-AGB Object HD 161796 – ORAL  
**Angela Speck**; Karly M. Pitman; Anne M. Hofmeister; Alan G. Whittington  
American Astronomical Society Meeting 222, Indianapolis, IN, June 2013, #202.03
4. Pluto's Demise and Resurrection – ORAL  
**Angela Speck**  
American Astronomical Society Meeting 222, Indianapolis, IN, June 2013, EPO talk
5. Modeling the Extended Dust Shell Around AFGL 618 – POSTER  
Laura Hosmer; **Angela Speck**; M. Meixner; D.C. Lis; M.M. Nenkova; M. Elitzur  
American Astronomical Society Meeting 222, Indianapolis, IN, June 2013, #216.13
6. Investigating the Variance of Mid-infrared Dust Spectral Features of Oxygen-rich AGB Stars – POSTER  
Adam Eshein; **Angela Speck**  
American Astronomical Society Meeting 222, Indianapolis, IN, June 2013, #216.14
7. Modeling the Mineralogy of Dust Around Obscured, Oxygen-rich AGB Star, IRAS 17495-2534 – POSTER  
David Nash; **Angela Speck**  
American Astronomical Society Meeting 222, Indianapolis, IN, June 2013, #216.15
8. Clumpy Molecular Hydrogen in the Dumbbell Nebula – POSTER  
Baldrige, Sean; **Speck, A.**; Matsuura, M.; Jacoby, G  
American Astronomical Society Meeting 221, Long Beach, CA, January 2013, #216.14
9. Pitman, Karly M.; **Speck, A.**; Hofmeister, A. M.; Buffard, A. S.; Whittington, A. G



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- Better Alternatives to “Astronomical Silicate”: Laboratory-Based Optical Functions of Cosmic Abundance Glass with Application to HD 161796 – ORAL  
American Astronomical Society Meeting 221, Long Beach, CA, January 2013, #223.04
10. The Enigmatic 13 Micron Feature in the Spectra of AGB Stars – POSTER  
De Souza, Nelson; **Speck, A.**  
American Astronomical Society Meeting 221, Long Beach, CA, January 2013, #145.03
  11. The Effects of Stellar Chemistry on the Broad 9-15 Micron Spectral Feature of O-rich AGB Stars – POSTER  
Arrant, David J.; **Speck, A.**  
American Astronomical Society Meeting 221, Long Beach, CA, January 2013, #145.02
  12. An Exploration of the Dust Spectral Features of the Carbon-Rich Star V Cyg Through Time and Space  
Reel, Matthew; **Speck, A.**; Volk, K.; Sloan, G. C.  
American Astronomical Society Meeting 221, Long Beach, CA, January 2013, #145.01
  13. Cosmic Conversations: Training STEM Students to Speak to the Public – ORAL  
**Angela Speck**, Lanika Ruzhitskaya  
Communicating Science, Tucson, AZ, August 2012
  14. Going Virtual? or Not – POSTER  
**Angela Speck**, Lanika Ruzhitskaya, Nan Ding, Sean Baldrige, Stephen Witzig, James Laffey  
Communicating Science, Tucson, AZ, August 2012
  15. 3D Virtual Reality for Teaching Astronomy – ORAL  
**Angela Speck**, L. Ruzhitskaya<sup>‡</sup>, J. Laffey, N. Ding  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #227.03
  16. Astronomy in Sustainable Energy: A New Approach to Make It Matter – ORAL  
Lanika Ruzhitskaya<sup>‡</sup>, **Angela Speck**  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #227.06
  17. Bringing Science Public Outreach to Elementary Schools – ORAL  
Lucas Miller\*, **A. Speck**, A. Tinnin  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #210.06
  18. Investigating Chemical Compositions of Select Saturnian Satellites via Mosaicking of Cassini VIMS Observations – POSTER  
Laura Hosmer\*, C. Dalle Ore, R. Mastrapa, **A. Speck**.  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #334.14
  19. Differential Depletion of Mg and Fe in Planetary Nebulae: Implications for the Composition of AGB-Star Dust – POSTER  
Harriet L. Dinerstein, F. Prasla, **A. K. Speck**  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #343.01
  20. Spitzer SAGE/LMC Observations Of Extreme Carbon Stars As A Probe Of Carbon-rich Stardust Properties – POSTER  
Nicholas Parmley\*, **A. K. Speck**, A. J. Mulia\*, SAGE-Spec team  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #343.02
  21. The Enigmatic 13 micron Feature in the Spectra of AGB Stars – POSTER  
Nelson De Souza<sup>‡</sup>, **A. K. Speck**  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #343.03

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22. Modeling the Effect of Pulsation on the Dust Spectrum of Carbon Star V Cyg – POSTER  
**Angela Speck**, B. Hester\*, A. Corman<sup>†</sup>, K. Volk, G. C. Sloan  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #343.04
23. Understanding Stardust via Spatially-Resolved Spectroscopy: A Case Study on R Hya – POSTER  
Aaron Kaberline\*, S. Guha Niyogi<sup>†</sup>, **A. K. Speck**, K. Volk  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #343.11
24. The Effect Of Metallicity And C/O On The Low-Contrast Dust Features Of Low-Mass-Loss Rate O-Rich AGB Stars – POSTER  
David J. Arrant<sup>†</sup>, **A. K. Speck**, S. J. Chan<sup>†</sup>  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #343.13
25. Mass-loss History of a 'typical' AGB Star, Mira, Using Far-Infrared Imaging Photometry – POSTER  
Basil Menzi Mchunu<sup>†</sup>, **A. K. Speck**  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #439.24
26. UV-Visible Laboratory Spectra Of Presolar Oxide And CAI Analogs: Corundum, Spinel, Hibonite, And Melilites – ORAL  
Karly M. Pitman, A. M. Hofmeister, **A. K. Speck**  
American Astronomical Society Meeting 219, Austin, TX, January 2012, #320.01
27. Mini-Journals: Incorporating Inquiry, Quantitative Skills and Writing into Homework Assignments for Geochemistry and Planetary Science – POSTER  
Whittington, A.G., **Speck, A.K.**, Witzig, S.B., and Abell, S.K.,  
EOS, Transactions AGU. AGU 2011 Fall meeting, San Francisco, CA. Abstract ED11A-0757
28. Analyzing Dust Spectra Of Oxygen-rich AGB Stars Using Spatially Resolved Spectroscopy – POSTER  
Guha Niyogi, Suklima<sup>†</sup>, **Speck, A. K.**, Volk, K.  
American Astronomical Society Meeting 218, Boston, MA, May 2011, #322.04
29. Through The Looking Glass: New Laboratory Spectra Of Glassy Silicates For The Comparison To Astrophysical Environments – POSTER  
**Speck, Angela**, Whittington, A., Hofmeister, A.  
American Astronomical Society Meeting 218, Boston, MA, May 2011, #129.22
30. Variable Stars and The Asymptotic Giant Branch: Stellar Pulsations, Dust Production and Mass Loss – ORAL  
**Speck, Angela**  
American Astronomical Society Meeting 218, Boston, MA, May 2011, #114.04
31. Peer interaction: help or distraction? – ORAL  
Ruzhitskaya, L. <sup>†</sup>, **Speck, A. K.**  
American Astronomical Society Meeting 217, Seattle, WA, January 2011, #405.07
32. Guided Versus Unguided Learning: Which One To Choose? – ORAL  
Ruzhitskaya, L. <sup>†</sup>, **Speck, A. K.**  
American Astronomical Society Meeting 217, Seattle, WA, January 2011, #405.06
33. Identity Crisis: True Composition of Circumstellar Dust Questioned – POSTER  
Miller, L.\* , **Speck, A. K.**, Guha Niyogi, S.<sup>†</sup>  
American Astronomical Society Meeting 217, Seattle, WA, January 2011, #250.16
34. Effects of Temperature and Composition on Spectral Features of the Olivine minerals – POSTER  
Guha Niyogi, S.<sup>†</sup> **Speck, A. K.**, Dijkstra, C.  
American Astronomical Society Meeting 217, Seattle, WA, January 2011, #250.15
35. Studying the Effect of C/O Ratio on Dust around Carbon Star – POSTER

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- Knoll, H.\* **Speck, A. K.**  
American Astronomical Society Meeting 217, Seattle, WA, January 2011, #250.14
36. The Effect Of Chemical Abundances On Dust Formation: Stellar Nucleosynthesis Vs. Metallicity. – POSTER  
**Speck, A. K.**, Chan, S.J.<sup>‡</sup>  
American Astronomical Society Meeting 217, Seattle, WA, January 2011, #250.12
37. Understanding S Stars by C/O Ratios and s-Process Element Abundances – POSTER  
Arrant, D.<sup>†</sup>, **Speck, A. K.**  
American Astronomical Society Meeting 217, Seattle, WA, January 2011, #250.11
38. UV-Visible Laboratory Spectra Of Dust Analogs: Mg-silicates, Spinel, And Glasses – POSTER  
Pitman, Karly M.<sup>‡</sup>, Hofmeister, A. M., **Speck, A. K.**  
American Astronomical Society Meeting 217, Seattle, WA, January 2011, #112.06
39. Can dust and molecules explain the sulphur anomaly in planetary nebulae? - POSTER  
**Speck, A. K.**, Henry, R.  
Asymmetric Planetary Nebulae 5 conference, held in Bowness-on-Windermere, U.K., 20 - 25 June 2010
40. Incorporating inquiry into upper-level undergraduate homework assignments: The Mini-Journal. – POSTER  
Whittington, A.G., **Speck, A.K.**, Witzig, S.B., and Abell, S.K.,  
EGU Annual meeting, Vienna, Austria. 2010
41. Dust from Evolved Stars to Protostars – ORAL  
Meteoritical Society Pre-meeting Workshop on Disks, Meteorites, Planetessimals, July 23 – 24, 2010, New York, NY. Abstract No. 6018.
42. The Origin of Presolar Silica Grains in AGB Stars – POSTER  
Bose, M., Floss, C., Stadermann, F. J., Stroud, R. M., **Speck, A. K.**  
41st Lunar and Planetary Science Conference, held March 1-5, 2010 in The Woodlands, Texas. LPI Contribution No. 1533, p.1812
43. Laboratory Spectra of Astronomical Dust Analogs at Ultraviolet-Visible Wavelengths – POSTER  
Pitman, Karly M.<sup>‡</sup>, Hofmeister, A. M., **Speck, A. K.**  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #476.03
44. A New Method For Obtaining Optical Constants In The Near-IR To UV From Single-Crystal Absorption Spectra: SiC And Silicates As Examples – POSTER  
Hofmeister, Anne M., Pitman, K. M.<sup>‡</sup>, **Speck, A. K.**  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #476.02.
45. Virtual Jupiter - Real Learning – POSTER  
Ruzhitskaya, Lanika<sup>†</sup>, **Speck, A.**, Laffey, J.  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #466.06
46. The Mass Loss Return from Evolved Stars to the Large Magellanic Cloud: Oxygen-Rich Asymptotic Giant Branch Stars – POSTER  
Sargent, Benjamin A., Srinivasan, S., Meixner, M., Kemper, F., Tielens, X., **Speck, A.**, Matsuura, M., Bernard, J., Hony, S., Gordon, K., and 5 coauthors  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #459.06
47. Can Dust and Molecules Explain the Sulfur Anomaly in Planetary Nebulae?  
**Speck, Angela**, Henry, R. – POSTER  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #454.22

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48. New SiC Optical Constants – POSTER  
Corman, Adrian<sup>†</sup>, **Speck, A.**, Hofmeister, A., Pitman, K<sup>‡</sup>.  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.23
49. Spitzer Reveals New Insights into Mass Loss History of Evolved Stars  
Geise, Kathleen M., Ueta, T., **Speck, A. K.**, Izumiura, H., Stencel, R. E.  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.14
50. The Relationship Between the Dust Condensation Sequence for Oxygen-rich Circumstellar Environments and the C/O Ratio . – POSTER  
Chan, S. Josephine<sup>‡</sup>, **Speck, A. K.**  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.12
51. Testing The Sensitivity Of Spectral Feature Parameters To Analysis Methods - "10 Micron" Features In OH/IR Stars – POSTER  
Randolph, Cindy\*, Myers, E.\*, **Speck, A.**  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.07
52. Laboratory Spectra of Glassy Silicates for the Comparison to Astrophysical Environments – POSTER  
Newgard, Arielle L.<sup>†</sup>, **Speck, A.**, Whittington, A., Hofmeister, A., Tartar, J.<sup>†</sup>, Williams, K.\*  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.06
53. Identity Crisis: True Composition of Circumstellar Dust Questioned – POSTER  
Miller, Lucas\*, **Speck, A.**, Guha Niyogi, S.<sup>†</sup>  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.05.
54. A Temporal Study of O-rich Pulsating Variable AGB Star, T Cep: Investigation on Dust Formation, Mineralogy and Morphology of Dust Grains – POSTER  
Guha Niyogi, Suklima,<sup>†</sup> **Speck, A.**  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.04
55. Mythbusting Stardust Formation Scenarios: Crystalline Silicates And New Insights Into Oxygen-rich AGB Stars. – POSTER  
Fletcher, Corinne,\* **Speck, A.**  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.02
56. The 8-14 Micron Feature in S Stars: O Positive or O Negative – POSTER  
Arrant, David J.<sup>†</sup>, **Speck, A.**  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #431.01
57. Comparing Carbon Dust Grain Types from the Milky Way and the Large Magellanic Cloud – POSTER  
Mulia, Alexander,\* **Speck, A. K.**  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #428.09
58. Focusing on the Processes of Science Using Inquiry-oriented Astronomy Labs for Learning Astronomy - ORAL  
**Speck, Angela**, Ruzhitskaya, L.<sup>†</sup>, Whittington, A., Witzig, S.  
American Astronomical Society Meeting 215, Washington, DC, January 2010, #21706S
59. Incorporating inquiry into upper-level homework assignments: The mini-journal. – POSTER  
Whittington, A.G., **Speck, A.K.**, Witzig, S.B., and Abell, S.K.  
AGU Fall meeting, San Francisco, CA, 2009.
60. What do students in an introductory astronomy course believe science is? – POSTER  
Hanuscin, D., **Speck, A.**, & Ruzhitskaya, L.  
American Association of Physics Teachers. Chicago, IL, February 2009.
61. PAH Formation: 3.3 And 11.3  $\mu\text{m}$  Data - POSTER

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- Caputo, Daniel P.<sup>†</sup>, **Speck, A.**, Volk, K., Barlow, M., Wesson, R.  
American Astronomical Society Meeting 214, Pasadena, June 2009, #402.11
62. Optical Properties Of Silicon Carbide: Implications Of New Laboratory Data - POSTER  
Corman, Adrian<sup>†</sup>, **Speck, A.**, Hofmeister, A., Pitman, K.<sup>‡</sup>  
American Astronomical Society Meeting 214, Pasadena, June 2009, #402.09
63. Through The Looking Glass: The Causes Of Variations In "Amorphous" Silicate Spectral Features - POSTER  
**Speck, Angela**, Hofmeister, A. M., Whittington, A. G.  
American Astronomical Society Meeting 214, Pasadena, June 2009, #402.08
64. Using Classical Dispersion Analysis to Extract Peak Parameters, Optical Constants from IR Lab Absorbance Spectra: Olivine - POSTER  
Pitman, Karly M.<sup>‡</sup>, Dijkstra, C. R.<sup>‡</sup>, Hofmeister, A. M., **Speck, A. K.**  
American Astronomical Society Meeting 214, Pasadena, June 2009, #402.07
65. The Relationship Between C/O Ratio and the Dust Condensation Sequence for O-rich Circumstellar Environments - POSTER  
Chan, S. Josephine<sup>‡</sup>, **Speck, A.**  
American Astronomical Society Meeting 214, Pasadena, June 2009, #402.04
66. The Effect of Stellar Pulsation Cycles on Dust Formation: A Temporal Study of the Mid-infrared Spectrum of O-rich AGB Star, T Cep. - POSTER  
Guha Niyogi, Suklima<sup>†</sup>, **Speck, A.**  
American Astronomical Society Meeting 214, Pasadena, June 2009, #402.02
67. Kepler's Laws in an Introductory Astronomy Laboratory: The Influence of a Computer-based Simulation Used With Multiple Variables - ORAL  
Ruzhitskaya, Lanika<sup>†</sup>, French, R. S., **Speck, A.**  
American Astronomical Society Meeting 214, Pasadena, June 2009, #312.03
68. The Dusty Universe - From Spitzer to Herschel: Dust Formation and Spectroscopy - ORAL  
**Speck, Angela**  
American Astronomical Society Meeting 214, Pasadena, June 2009, #232.03
69. Stellar Pulsation and the Variability of Infrared Spectral Features – POSTER  
**Speck, Angela**, Guha Niyogi, Suklima<sup>†</sup>  
American Astronomical Society Meeting 213, Long Beach, CA, January 2009, #412.03
70. Misconceptions in Astronomy: Before and After a Constructivist Learning Environment - ORAL  
Ruzhitskaya, Lanika<sup>†</sup>, **Speck, Angela**  
American Astronomical Society Meeting 213, Long Beach, CA, January 2009, #353.04
71. Innovations in Inquiry-Based Laboratory Exercises for Non-Majors Astronomy Courses: Connecting Undergraduates with the Enterprise of Science - ORAL  
**Speck, Angela**, Ruzhitskaya, Lanika<sup>†</sup>, Weaver, Jan  
American Astronomical Society Meeting 213, Long Beach, CA, January 2009, #353.03
72. Examining the importance of the input spectrum when modeling S Stars  
Arrant, David<sup>†</sup>, **Speck, Angela**, Volk, Kevin  
Cosmic Dust – Near and Far, Heidelberg Germany, September 2008.
73. Understanding the Formation of PAHs: A case study on carbon-rich AGB stars  
Caputo, Dan<sup>†</sup>, **Speck, Angela**, Volk, Kevin, Barlow, Mike  
Cosmic Dust – Near and Far, Heidelberg Germany, September 2008.
74. The Silicon Carbide Feature of V Cyg

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- Corman, Adrian<sup>†</sup>, **Speck, Angela**, Volk, Kevin, Barlow, Mike, Sloan, Greg.  
Cosmic Dust – Near and Far, Heidelberg Germany, September 2008.
75. New Silicon Carbide Optical Constants  
Corman, Adrian<sup>†</sup>, **Speck, Angela**, Pitman, K.<sup>‡</sup>, Hofmeister, A.M.  
Cosmic Dust – Near and Far, Heidelberg Germany, September 2008.
76. Extended Circumstellar Dust Shells of post-AGB Stars: ISOPHOT imaging  
Mchunu, B.M.<sup>†</sup>, **Speck, Angela**,  
Cosmic Dust – Near and Far, Heidelberg Germany, September 2008.
77. The effect of stellar pulsation cycles on dust formation: a temporal study of the mid-infrared spectrum of O-rich AGB star, T Cep  
Guha Niyogi, Suklima<sup>†</sup>, **Speck, Angela**  
Cosmic Dust – Near and Far, Heidelberg Germany, September 2008.
78. The Formation of crystalline silicate: Lessons from an obscured O-rich AGB star  
**Speck, Angela**, Whittington, Alan, Tartar, J. B.<sup>†</sup>  
Cosmic Dust – Near and Far, Heidelberg Germany, September 2008.
79. Far Infrared Observations Of Oxygen Rich AGB Stars Using ISOHOT Imaging - POSTER  
Mchunu, B.M.<sup>†</sup>, **Speck, A.**  
American Astronomical Society Meeting 212, St Louis, MO, June 2008, #17.10
80. Project CLEA - The Moons of Jupiter: Understanding the Kepler's Laws in Astronomy 101 - POSTER  
Ruzhitskaya, L.<sup>†</sup>, **Speck, A.**  
American Astronomical Society Meeting 212, St Louis, MO, June 2008, #40.02
81. Understanding Dust Formation around AGB Stars: Rethinking the Condensation Sequence around S Stars - POSTER  
Arrant, D.J.<sup>†</sup>, Taylor, M., **Speck, A.**  
American Astronomical Society Meeting 212, St Louis, MO, June 2008, #06.08
82. Understanding The Conditions For Crystalline Silicate Formation: Lessons From An Obscured AGB Star - POSTER  
**Speck, A.**, Whittington, A.  
American Astronomical Society Meeting 212, St Louis, MO, June 2008, #06.07
83. Circumstellar Crystalline Silicates: Evolved Stars - POSTER  
Tartar, J.<sup>†</sup>, **Speck, A.**  
American Astronomical Society Meeting 212, St Louis, MO, June 2008, #06.06
84. The Formation of PAHs: A Case Study on Carbon-rich AGB Stars - POSTER  
Caputo<sup>†</sup>, J., **Speck, A.**, Barlow, M.J., Wesson, R., Volk, K., Clayton, G.C.  
American Astronomical Society Meeting 212, St Louis, MO, June 2008, #06.04
85. Understanding the Dust Condensation Sequence for O-rich AGB through Radiative Transfer Modeling. - POSTER  
Smith, Anthony\*, Wheeler, C.H.\*, **Speck, A.K.**  
American Astronomical Society Meeting 212, St Louis, MO, June 2008, #06.03
86. Investigating The Effect Of The C/O Ratio On Dust Formation Around Carbon Stars - POSTER  
Corman, Adrian<sup>†</sup>, **Speck, A.K.**  
American Astronomical Society Meeting 212, St Louis, MO, June 2008, #06.01
87. Quantitative Laboratory Measurements Of IR Spectra Of Diverse Glasses Suggest That Dust In Space Is Crystalline - POSTER  
Hofmeister, Anne M., **Speck, A.K.**

## ANGELA SPECK - PUBLICATIONS

- American Astronomical Society Meeting 212, St Louis, MO, June 2008, #03.34
88. Unidentified infrared bands and the formation of PAHs around carbon stars - ORAL  
**Speck, A.**, Barlow, M.J., Wesson, R., Volk, K., Clayton, G.C.  
IAU Symposium 251: Organic Matter in Space, Hong Kong, China, February 2009.
89. Preliminary Infrared Spectral Models of S Star Circumstellar Dust - POSTER  
Arrant, David J.<sup>†</sup>, **Speck, A**  
American Astronomical Society Meeting 211, Austin, TX, January 2008, #93.14
90. Understanding Extreme Carbon Stars: Condensation Temperature, Grain Sizes, and Silicon Carbide Absorption - POSTER  
Corman, Adrian<sup>†</sup>, **Speck, A.**  
American Astronomical Society Meeting 211, Austin, TX, January 2008, #93.08
91. Understanding the Dust Condensation Sequence in "13 $\mu$ m-Feature" Oxygen-Rich AGB Stars Using Radiative Transfer Models - POSTER  
Wheeler, Caleb\*, **Speck, A. K.**  
American Astronomical Society Meeting 211, Austin, TX, January 2008, #93.05
92. Modeling the Effect of the Silicate Condensation Sequence on AGB Stellar Spectrum - POSTER  
Smith, Anthony A.\* , **Speck, A. K.**  
American Astronomical Society Meeting 211, Austin, TX, January 2008, #93.04
93. IRAS 17495-2534: A Symbiotic Star with Crystalline Silicates or Evidence of Crystalline Silicates in the ISM? - POSTER  
**Speck, Angela**, Whittington, Alan  
American Astronomical Society Meeting 211, Austin, TX, January 2008, #93.01
94. Stellar Properties in the Classroom: From Parallax to Radius - ORAL  
Ruzhitskaya, Lanika<sup>†</sup>, **Speck, A.**  
American Astronomical Society Meeting 211, Austin, TX, January 2008, #70.07
95. The Effect of Grain Size and Shape on the Spectrum of Silicon Carbide - POSTER  
Azmeah, Chris\*, Corman, A.<sup>†</sup>, **Speck, A.K.**, Pitman, K.<sup>‡</sup>, Hofmeister, A.  
American Astronomical Society Meeting 211, Austin, TX, January 2008, #93.13
96. Dust at Low Metallicity: Spitzer Observations of AGB Stars in NGC 6822 - POSTER  
Schuyler Van Dyk, Ciska Kemper, **Angela Speck**, Ryzsard Szczerba, Margaret Meixner, E. Peeters & T.Ueta  
American Astronomical Society Meeting 209, Seattle, WA, January 2007, #168.13
97. Laboratory Infrared Optical Constants and Reflectance Spectra of Silicon Carbide - POSTER  
Karly M. Pitman<sup>‡</sup>, Anne M. Hofmeister & **Angela K. Speck**  
American Astronomical Society Meeting 209, Seattle, WA, January 2007, #06.02
98. Spitzer/MIPS infrared imaging of extremely extended circumstellar shells - TALK  
**Angela Speck** & the MIRIAD team  
Why Galaxies Care About AGB Stars, Vienna, Austria, August 7-11<sup>th</sup> 2006.
99. The Carbon Star Dust Sequence: Evolution of the SiC in Dust Circumstellar Outflows of C-Stars - POSTER  
Adrian Corman<sup>†</sup>, Grant Thompson\*, **Angela Speck** & Catharinus Dijkstra<sup>‡</sup>  
Why Galaxies Care About AGB Stars, Vienna, Austria, August 7-11<sup>th</sup> 2006.
100. SiO<sub>2</sub> Around O-rich AGB Stars - Astromineralogy & The "13 $\mu$ m" Feature – POSTER  
Kyle DePew<sup>†</sup>, **Angela Speck**, Anthony Smith\*, Catharinus Dijkstra\* & Anne Hofmeister.  
Why Galaxies Care About AGB Stars, Vienna, Austria, August 7-11<sup>th</sup> 2006.

## ANGELA SPECK - PUBLICATIONS

101. Tracing the mass loss Histories of post-AGB Stars : ISOPHOT imaging – POSTER  
B.M. Mchunu<sup>†</sup>, **Angela Speck** & Margaret Meixner  
Why Galaxies Care About AGB Stars, Vienna, Austria, August 7-11<sup>th</sup> 2006.
102. CLOUDY Modeling of Weird Far-IR Emission in the Central Zone of the Helix Nebula - POSTER  
Adrienne Dove\* & **Angela Speck** - POSTER  
IAU Symposium 234: Planetary Nebulae in our Galaxy and Beyond, Waikaloa, HI, April 3-7 2006.
103. Spitzer/MIPS Infrared Imaging of the Extremely Extended Circumstellar Dust Shells - POSTER  
**Angela K. Speck**, Toshiya Ueta, Robert Stencel & the MIRAD team.  
IAU Symposium 234: Planetary Nebulae in our Galaxy and Beyond, Waikaloa, HI, April 3-7 2006.
104. An HST Study of the Molecular Gas in Planetary Nebulae - POSTER  
Josh Tartar<sup>†</sup>, **Angela Speck**, & Sarah Eyermann<sup>†</sup>  
IAU Symposium 234: Planetary Nebulae in our Galaxy and Beyond, Waikaloa, HI, April 3-7 2006.
105. The 3 $\mu$ m water ice/vapour feature of (post-)AGB stars - POSTER  
Dijkstra, C.<sup>‡</sup>, Justtanont, K., Dominik, C., Waters, L., Matsuura, M., **Speck, A.K.**, Cami, J., Yamamura, I.  
American Astronomical Society Meeting 207, Washington, DC, January 2006 #182.18
106. Tracing the mass-loss histories of (post-)AGB stars: ISOPHOT imaging - POSTER  
Mchunu, B. M.<sup>†</sup>, **Speck, A. K.** Meixner, M.  
American Astronomical Society Meeting 207, Washington, DC, January 2006 #182.17
107. SiO<sub>2</sub> Around O-rich AGB Stars - Mineralogy & The "13 $\mu$ m" Feature - POSTER  
DePew, K. D.<sup>†</sup>, **Speck, A. K.**, Dijkstra, C.<sup>‡</sup>, Hofmeister, A. M.  
American Astronomical Society Meeting 207, Washington, DC, January 2006 #182.16
108. Spitzer/MIPS Infrared Imaging of the Extremely Extended Circumstellar Dust Shell of HD 161796 -  
POSTER  
**Speck, A. K.**, Ueta, T., Stencel, R., MIRIAD Collaboration  
American Astronomical Society Meeting 207, Washington, DC, January 2006 #182.15
109. Radiative Transfer Modeling of the Extended Dust Shell of AFGL 618 - POSTER  
Tartar, J.<sup>†</sup>, **Speck, A.**, Meixner, M., Nenkova, M., Elitzur, M.  
American Astronomical Society Meeting 207, Washington, DC, January 2006 #182.14
110. The Carbon Star Dust Sequence: Evolution of SiC Dust Circumstellar Outflows of C-Stars - POSTER  
Thompson, G. D.\* , **Speck, A. K.**, Dijkstra, C.<sup>‡</sup>  
American Astronomical Society Meeting 207, Washington, DC, January 2006 #182.07
111. An Investigation of the Dust Shells Around Carbon Stars Using Radiative Transfer Modeling - POSTER  
Corman, A. B.\* , **Speck, A. K.**  
American Astronomical Society Meeting 207, Washington, DC, January 2006 #182.05
112. HST study of the molecular gas in planetary nebulae - POSTER  
Hamacher, D.\* , Eyermann, S.\* , **Speck, A. K.**, Meixner, M.  
American Astronomical Society Meeting 207, Washington, DC, January 2006 #08.08
113. Mineralogy of Dust in the Outflows of Asymptotic Giant Branch Stars - ORAL  
**Speck, A.K.**  
American Astronomical Society Meeting 206, Minneapolis, MN, June 2005 #28.02 (invited talk)
114. Submillimeter Imaging of Fossil Dust Shells around Post-AGB Stars - POSTER  
Wilson, K.\* , **Speck, A.**, Lis, D., Meixner, M.  
American Astronomical Society Meeting 206, Minneapolis, MN, June 2005 #08.04
115. Modeling Periodic Mass-loss Changes in the Fossil Shells around Post-AGB Stars - POSTER  
Tartar, J.\* , **Speck, A.**, Meixner, M., Elitzur, M.



## ANGELA SPECK - PUBLICATIONS

- American Astronomical Society Meeting 206, Minneapolis, MN, June 2005 #06.06
116. The Nature and Evolution of Silicon Carbide in the Outflows of Carbon Stars - POSTER  
Thompson, G. D.\* , **Speck, A. K.**, Hofmeister, A. M.  
American Astronomical Society Meeting 206, Minneapolis, MN, June 2005 #06.05
117. Dust around evolved stars in the Magellanic Clouds - POSTER  
Reid, B.\* , **Speck, A.**, Dijkstra, R.\*  
American Astronomical Society Meeting 206, Minneapolis, MN, June 2005 #06.03
118. Mineralogy of Dust Around O-rich AGB Stars - The "13um" Feature  
DePew, K.\* , **Speck, A.K.**,  
American Astronomical Society Meeting 206, Minneapolis, MN, June 2005 #06.04
119. The Evolution of Molecular Hydrogen in Planetary Nebulae - POSTER  
Eyermann, S. E.\* , **Speck, A.K.**  
American Astronomical Society Meeting 205, San Diego, CA, January 2005 #138.11
120. Astromineralogy of Intermediate Mass Evolved Stars in the Magellanic Clouds - POSTER  
Reid, R. B.\* , **Speck, A.K.**  
American Astronomical Society Meeting 205, San Diego, CA, January 2005 #58.03
121. Stardust: observational evidence of mass-loss processes in the history of the Egg Nebula - POSTER  
Tartar, J.\* , **Speck, A.K.**  
American Astronomical Society Meeting 205, San Diego, CA, January 2005 #58.02
122. Silicon carbide: a case study in the astrophysics of stardust - POSTER  
**Speck, A.K.**  
American Astronomical Society Meeting 205, San Diego, CA, January 2005 #58.01
123. Observational Evidence for Presolar Grains around Oxygen-rich Evolved Stars - POSTER  
**Speck, A.K.**, Hofmeister, A. M.  
American Astronomical Society Meeting 203, Atlanta, GA, January 2004 #49.06
124. Processing of presolar grains around post-AGB stars: SiC as the carrier of the "21"μ m feature - POSTER  
Hofmeister, A. M., **Speck, A.K.**  
American Astronomical Society Meeting 203, Atlanta, GA, January 2004 #49.09
125. Episodic Mass Loss on the Timescale of Thermal Pulses: Radiative Transfer Modeling - POSTER  
Miller, B. A.\* , **Speck, A.K.**, Meixner, M.  
American Astronomical Society Meeting 203, Atlanta, GA, January 2004 #49.08
126. The carrier of the 13μ m feature in the spectra of O-rich AGB stars - POSTER  
Mora, M. Y.\* , **Speck, A.K.**,  
American Astronomical Society Meeting 203, Atlanta, GA, January 2004 #137.02
127. Observational Evidence for Presolar Grains around Oxygen-rich Evolved Stars - ORAL  
**Speck, A.K.**, Hofmeister, A. M., Mora, M.\*  
Workshop on Cometary Dust in Astrophysics, Mt Rainier, WA, August 2003
128. Absorption and reflection IR spectra of MgO and other diatomic compounds. - POSTER  
Hofmeister, A. M., **Speck, A.K.**  
Astrophysics of Dust Conference, Estes Park, CO, May 2003
129. Episodic Mass Loss on the Timescale of Thermal Pulses: Submillimeter Observations of Dust Shells. - POSTER  
**Speck, Angela**, Lis, Darek, Meixner, Margaret, Knapp, Gillian  
Astrophysics of Dust Conference, Estes Park, CO, May 2003

## ANGELA SPECK - PUBLICATIONS

130. Episodic Mass Loss on the Timescale of Thermal Pulses: Radiative Transfer Modeling - POSTER  
**Speck, Angela**, Nenkova, Maia, Meixner, Margaret, Elitzur, Moshe, Knapp, Gillian  
Astrophysics of Dust Conference, Estes Park, CO, May 2003
131. The Dust Ring of LBV Candidate HD 168625 - POSTER  
O'Hara, T.B., Meixner, M., **Speck, A.K.**, Ueta, T., Bobrowsky, M.  
American Astronomical Society Meeting 201, Seattle, WA, January 2003
132. Near-IR and BIMA CO Observations of the Red Rectangle - POSTER  
Doering, R., Meixner, M., Fong, D., Zalucha, A., Maxham, A., **Speck, A.K.**  
American Astronomical Society Meeting 201, Seattle, WA, January 2003
133. Periodic Enhancements in Mass Loss on the AGB: Radiative transfer modeling of the parsec-sized dust shell around the Egg Nebula - POSTER  
**Speck, A.K.**, Meixner, M., Nenkova, M. & Elitzur, M.,  
"Workshop on Mass-losing Pulsating Stars and their Circumstellar Matter, Sendai Japan, May 2002.
134. Processing of Presolar Grains Around Post-AGB Stars: Silicon Carbide as the Carrier of the 21 $\mu$ m Feature - ORAL  
**Speck, A.K.**, & Hofmeister, A.M.,  
Lunar & Planetary Science Conference, Houston, **33**, #1155, March 2002.
135. Formation of Presolar Crystalline Silicates: The Effect of <sup>26</sup>Al - ORAL  
**Speck, A.K.**, Kemper, F., Whittington, A.G., Molster, F.J. & Herwig, F.,  
Lunar & Planetary Science Conference, Houston, **33**, #1155, March 2002.
136. Large-scale extended emission around the Helix Nebula - ORAL  
**Speck, A.K.** Meixner, M., Fong, D. McCullough, P.R., Moser, D.E. & Ueta, T.  
American Astronomical Society Meeting 199, Washington DC, January 2002
137. Dust around oxygen-rich evolved stars – ORAL  
**Speck, A.K.**, Hofmeister, A.M., Barlow, M.J. & Sylvester, R.J.  
Workshop on Interstellar Silicates, Leiden, The Netherlands, April 2001
138. Observations of Circumstellar Dust Shells Around Proto-Planetary Nebulae - POSTER  
Meixner, M, **Speck, A.K.**, Ueta, T., Knapp, G., Hoffmann, W., Hinz, P.M., Hora, J., Fazio, G., Deutsch, L.  
American Astronomical Society Meeting 197, #06.13
139. Infrared Studies of Silicon Carbide - POSTER,  
**Speck, A.K.**, & Hofmeister, A.M.  
at 63rd Annual Meeting of the Meteoritical Society: Chicago, IL, August 28 - September 1, 2000:
140. Observational Evidence for Presolar Grains around Oxygen-rich Evolved Stars - ORAL ,  
**Speck, A.K.**, Hofmeister, A.M. Barlow, M.J. & Sylvester, R.J.,  
at 63rd Annual Meeting of the Meteoritical Society: Chicago, IL, August 28 - September 1, 2000
141. Silicon Dioxide in the Infrared Spectra of Oxygen-rich Evolved Stars - POSTER,  
**Speck, A.K.**, Barlow, M.J., & Sylvester, R.J.,  
at Astrochemistry: From Molecular Clouds to Planetary Systems, IAU Symposium 197, Cheju Island, South Korea, Aug 23-27, 1999
142. Resolution of the SiC problem: astronomical and meteoritic evidence reconciled - POSTER  
**Speck, A.K.**, Hofmeister, A.M., & Barlow, M.J.,  
at Asymptotic Giant Branch Stars, IAU Symposium 191 Poster Session, #P3-21, held in Montpellier, France, Aug 28 – Sept 1, 1998
143. Silicon Carbide: astronomical and meteoritic evidence reconciled – POSTER  
**Speck, A.K.**, Hofmeister, A.M., & Barlow, M.J.,

## ANGELA SPECK - PUBLICATIONS

at the Faraday Discussion no. 109: Chemistry and Physics of Molecules and Grains in Space, The University of Nottingham, UK, 15-17 April 1998. - *joint winner of the Skinner Poster Prize.*

144. Silicon Carbide absorption features in the outflows of carbon stars - POSTER

**Speck, A.K.**, & Barlow, M.J.,

at the "Conference on the Astrophysical Implications of the Laboratory Study of Presolar Materials", Washington University, St Louis, MO, October 1996

145. Observations of the 11 micron Silicon Carbide Feature in Carbon Star Shells - POSTER

**Speck, A.K.**, Barlow, M.J., & Skinner, C.J.

at the IAU Symposium 177 "The Carbon Star Phenomenon", Antalya, Turkey, May 1996.

146. Digital elevation models of the North Polar regions of Mars - POSTER,

**Speck, A.K.**, Murray, J.B., & Rothery, D.A.,

1995, *L.P.S.C.*, **26**, 1017.

(I was involved in this work after the abstract was submitted - my name does not appear on this abstract - but it did appear on the poster - the other authors can confirm my involvement in this work.)