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Publication list
(July. 20th 2007)

Papers in refereed journals:

1. Klahr, H. H., Henning, T. 1997. Particle-Trapping Eddies in Protoplanetary Accretion Disks. *Icarus* **128**, 213–229.
2. Bell, K. R., Cassen, P. M., Klahr, H. H., Henning, T. 1997. The Structure and Appearance of Protostellar Accretion Disks: Limits on Disk Flaring. *Astrophysical Journal* **486**, 372–387.
3. Willacy, K., Klahr, H. H., Millar, T. J., Henning, T. 1998. Gas and grain chemistry in a protoplanetary disk. *Astronomy and Astrophysics* **338**, 995–1005.
4. Klahr, H. H., Henning, T., Kley, W. 1999. On the Azimuthal Structure of Thermal Convection in Circumstellar Disks. *Astrophysical Journal* **514**, 325–343.
5. Blum, J., Wurm, G., Kempf, S., Poppe, T., Klahr, H. and 22 colleagues 2000. Growth and Form of Planetary Seedlings: Results from a Microgravity Aggregation Experiment. *Physical Review Letters* **85**, 2426–2429.
6. Klahr, H. H., Lin, D. N. C. 2000. Dust Distribution in Gas Disks: A Model for the Ring around HR 4796A. *Astrophysical Journal* **554**, 1095–1109.
7. Wolf, S., Klahr, H. 2002. Large-Scale Vortices in Protoplanetary Disks: On the Observability of Possible Early Stages of Planet Formation. *Astrophysical Journal* **578**, L79–L82.
8. Klahr, H. H., Bodenheimer, P. 2003. Turbulence in Accretion Disks: Vorticity Generation and Angular Momentum Transport via the Global Baroclinic Instability. *Astrophysical Journal* **582**, 869–892.

9. Klahr, H. 2004. The Global Baroclinic Instability in Accretion Disks. II. Local Linear Analysis. *Astrophysical Journal* **606**, 1070–1082.
10. Wunsch, R., Klahr, H., Różyczka, M. 2005. Two-dimensional models of layered protoplanetary discs - I. The ring instability. *Monthly Notices of the Royal Astronomical Society* **362**, 361–368.
11. Klahr, H. H., Lin, D. N. C. 2005. Dust Distribution in Gas Disks II: Self Induced Ring Formation through a Clumping Instability. *Astrophysical Journal* **632**, 1113–1121
12. Johansen, A., Klahr, H. 2005. Dust diffusion in protoplanetary discs by magnetorotational turbulence. *Astrophysical Journal* **634**, 1353–1371
13. Johansen, A., Klahr, H., Henning, T. 2006. Gravoturbulent formation of planetesimals. *Astrophysical Journal* **636**, 1121–1134
14. Klahr, H., Kley, W. 2006. 3D-Radiation Hydro Calculations of Disk-Planet Interaction. *Astronomy and Astrophysics* **445**, 747–758
15. Klahr, H., Bodenheimer, P. 2006. Planetformation via Core Accretion in a Vortex. *Astrophysical Journal* **639**, 432–440
16. Wunsch, R., Gawryszczak, A., Klahr, H., Różyczka, M. 2006. Two-dimensional models of layered protoplanetary discs - II. The effect of a residual viscosity in the dead zone. *Monthly Notices of the Royal Astronomical Society* **159**, 773–780
17. de Val-Borro, M., Edgar, R., Artymowicz, A., Cieliegi, P., Cresswell, P., D'Angelo, G., Delgado-Donate, E., Dirksen, G., Fromang, S., Gawryszczak, A., Klahr, H., Kley, W., Lyra, W., Masset, F., Mellema, G., Nelson, R., Paardekooper, S.-J., Peplinski, A., Pierens, A., Plewa, T., Rice, K., Schäfer, C., Speith, R. 2006. A comparative study of disc-planet interaction. *Monthly Notices of the Royal Astronomical Society*, **370**, 529–558.
18. Johansen, A., Henning, T., Klahr, H. 2006. Dust Sedimentation and Self-Sustained Kelvin-Helmholtz Turbulence in Protoplanetary Disc Mid-Planes. *Astrophysical Journal*, **643**, 1219–1232.

19. Johansen, A., Klahr, H., Mee, A. J. 2006. Turbulent diffusion in protoplanetary discs: The effect of an imposed magnetic field. *Monthly Notices of the Royal Astronomical Society*, **370**, L71–L75.
20. Brauer, F., Dullemond, C. P., Johansen, A., Henning, T., Klahr, H., Natta, A. 2007. Survival of the mm-cm size grain population observed in protoplanetary disks. *Astronomy and Astrophysics* 469, 1169-1182.
21. Johansen, A., Oishi, J. S., Low, M.-M. M., Klahr, H., Henning, T., Youdin, A. 2007. Rapid planetesimal formation in turbulent circumstellar disks. *Nature* 448, 1022-1025.

submitted articles

1. Umbreit, S., Spurzem, R., Henning, Th., Klahr, H., Mikkola, S. 2007. Disks around Brown Dwarfs in the Ejection Model: I - Disk Collisions in Triple Systems. *Astrophysical Journal*, submitted
2. Umbreit, S., Klahr, H., Henning, Th., Spurzem, R., Mikkola, S. 2007. Disks around Brown Dwarfs in the Ejection Model: II - Frequencies and Properties After Post-Collisional Evolution. *Astrophysical Journal*, submitted
3. Lyra, W., Johansen, A., Klahr, H., Piskunov, N. 2007. Global models of turbulence in protoplanetary disks I. A cylindrical potential on a Cartesian grid and transport of solids. *Astronomy and Astrophysics*, submitted, arXiv:0705.4090

Invited review articles

1. Klahr, H., Rozyczka, M., Dziourkevitch, N., Wunsch, R., Johansen, A. 2006. Turbulence in Protoplanetary Accretion Disks: Driving Mechanisms and Role in Planet Formation. *Planet Formation*, Edited by Hubert Klahr and Wolfgang Brandner, pp. . ISBN 0521860156. Cambridge, UK: Cambridge University Press, 2006.
2. Klahr, H. 2006. Convection in Astrophysical Disks. *Convection in Astrophysics*, proceedings from IAU S 239, edited by F. Kupka, I.W. Roxburgh and K.L. Chan, Cambridge, UK: Cambridge University Press, in press

Conference contributions

1. Meroth, A.M., Klahr, H.H., Schwab, A.J. 1995. Neural-network aided finite-element mesh generation. In Ninth International Symposium on High Voltage Engineering, volume 8, pages 8859/1-4. Inst. High Voltage Eng, Graz, Austria, 1995.
2. Henning, T., Schmitt, W., Klahr, H., Mucha, R. 1996. Dust Evolution In Protoplanetary Disks. ASP Conf. Ser. 104: IAU Colloq. 150: Physics, Chemistry, and Dynamics of Interplanetary Dust 104, 513.
3. Klahr, H., Bodenheimer, P. 2000. Angular Momentum Transport in Protoplanetary Accretion Disks by Hydrodynamical Turbulence. ASP Conf. Ser. 219: Disks, Planetesimals, and Planets 219, 63.
4. Klahr, H., Lin, D. 2000. Dust Distribution in Gas Disks: A Model for the Ring around HR 4796A. ASP Conf. Ser. 219: Disks, Planetesimals, and Planets 219, 375.
5. Klahr, H. 2003. The Formation of a Planet in the Eye of a Hurricane - Vorticity Generation via the Global Baroclinic Instability in Accretion Disks. ASP Conf. Ser. 294: Scientific Frontiers in Research on Extrasolar Planets 294, 277-280.
6. Klahr, H., Bodenheimer, P. 2003. A three phase model for planet formation - the formation of a planet in the eye of a hurricane. ESA SP-539: Earths: DARWIN/TPF and the Search for Extrasolar Terrestrial Planets 481-483.
7. Klahr, H., Bodenheimer, P. 2004. Tornados and Hurricanes in Planet Formation. Revista Mexicana de Astronomia y Astrofisica Conference Series 22, 87-90.
8. Wolf, S., Klahr, H. 2005. Observing early stages of planet formation with ALMA: large-scale vortices in protoplanetary disks. The Dusty and Molecular Universe: A Prelude to Herschel and ALMA 473-474.
9. Klahr, H., Johansen, A. 2007. Gravoturbulent Planetesimal Formation. in Nobel Symposium 135: "Physics of Planetary Systems", Physica Scripta, Swedish Royal Academy of Sciences.

Editor of conference proceedings and books

1. Klahr, H., Brandner, W. 2006. Planet Formation: Theory, Observations, & Experiments, Edited by Hubert Klahr and Wolfgang Brandner, pp. . ISBN 0521860156. Cambridge, UK: Cambridge University Press, 2006. .

Papers in non-refereed journals

1. Klahr, H., Wolf, S. 2006 Staub im Computer: Numerisches zur Entstehung von Planeten, Annual Report of the MPIA
2. Wolf, S., Klahr, H. 2006 Planetenentstehung: Am Himmel beobachtet – Im Computer verstanden, Sterne und Weltraum
3. Klahr, H. 2006 Gewogen und für zu leicht befunden: Die Internationale Astronomische Union verabschiedet eine Planetendefinition, Physik Journal 5 (2006) Nr. 10, 18–19
4. Blum, J., Wolf, S. Klahr, H. 2007 Die Entstehung von Planetensystemen, Themenheft Planeten, Praxis der Naturwissenschaften - Physik in der Schule, Heft 1/56 Januar 2007