

## List of Publications: Full List

### Journal Articles

1. Zhu, H.-M., Mao, T.-X., & Pen, U.-L. (2022). Cosmic Tidal Reconstruction with Halo Fields. *The Astrophysical Journal*, 929, 5. <https://doi.org/10.3847/1538-4357/ac5a47>
2. Yalinewich, A., & Pen, U.-L. (2022). The moving mirror model for fast radio bursts. *Monthly Notices of the Royal Astronomical Society*, 515, 5682-5688. <https://doi.org/10.1093/mnras/stac2087>
3. Wolz, L., Pourtsidou, A., Masui, K. W., Chang, T.-C., Bautista, J. E., Müller, E.-M., Avila, S., Bacon, D., Percival, W. J., Cunnington, S., Anderson, C., Chen, X., Kneib, J.-P., Li, Y.-C., Liao, Y.-W., Pen, U.-L., Peterson, J. B., Rossi, G., Schneider, D. P., Yadav, J., & Zhao, G.-B. (2022). H I constraints from the cross-correlation of eBOSS galaxies and Green Bank Telescope intensity maps. *Monthly Notices of the Royal Astronomical Society*, 510, 3495-3511. <https://doi.org/10.1093/mnras/stab3621>
4. Wielgus, M., Marchili, N., Martí-Vidal, I., Keating, G. K., Ramakrishnan, V., Tiede, P., Fomalont, E., Issaoun, S., Neilsen, J., Nowak, M. A., Blackburn, L., Gammie, C. F., Goddi, C., Haggard, D., Lee, D., Moscibrodzka, M., Tetarenko, A. J., Bower, G. C., Chan, C.-k., Chatterjee, K., Chesler, P. M., Dexter, J., Doeleman, S. S., Georgiev, B., Gurwell, M., Johnson, M. D., Marrone, D. P., Mus, A., Psaltis, D., Ripperda, B., Witzel, G., Akiyama, K., Alberdi, A., Alef, W., Algaba, J. C., Anantua, R., Asada, K., Azulay, R., Bach, U., Baczko, A.-K., Ball, D., Baloković, M., Barrett, J., Bauböck, M., Benson, B. A., Bintley, D., Blundell, R., Boland, W., Bouman, K. L., Boyce, H., Bremer, M., Brinkerink, C. D., Brissenden, R., Britzen, S., Broderick, A. E., Brogiere, D., Bronzwaer, T., Bustamante, S., Byun, D.-Y., Carlstrom, J. E., Ceccobello, C., Chael, A., Chatterjee, S., Chen, M.-T., Chen, Y., Cho, I., Christian, P., Conroy, N. S., Conway, J. E., Cordes, J. M., Crawford, T. M., Crew, G. B., Cruz-Osorio, A., Cui, Y., Davelaar, J., De Laurentis, M., Deane, R., Dempsey, J., Desvignes, G., Dhruv, V., Dzub, S. A., Eatough, R. P., Emami, R., Falcke, H., Farah, J., Fish, V. L., Ford, H. A., Fraga-Encinas, R., Freeman, W. T., Friberg, P., Fromm, C. M., Fuentes, A., Galison, P., García, R., Gentaz, O., Gold, R., Gómez-Ruiz, A. I., Gómez, J. L., Gu, M., Hada, K., Haworth, K., Hecht, M. H., Hesper, R., Ho, L. C., Ho, P., Honma, M., Huang, C.-W. L., Huang, L., Hughes, D. H., Ikeda, S., Impellizzeri, C. M. V., Inoue, M., James, D. J., Jannuzi, B. T., Janssen, M., Jeter, B., Jiang, W., Jiménez-Rosales, A., Jorstad, S., Joshi, A. V., Jung, T., Karami, M., Karuppusamy, R., Kawashima, T., Kettenis, M., Kim, D.-J., Kim, J.-Y., Kim, J., Kim, J., Kino, M., Koay, J. Y., Kocherlakota, P., Kofuji, Y., Koch, P. M., Koyama, S., Kramer, C., Kramer, M., Krichbaum, T. P., Kuo, C.-Y., La Bella, N., Lauer, T. R., Lee, S.-S., Leung, P. K., Levis, A., Li, Z., Lico, R., Lindahl, G., Lindqvist, M., Lisakov, M., Liu, J., Liu, K., Liuzzo, E., Lo, W.-P., Lobanov, A. P., Loinard, L., Lonsdale, C., Lu, R.-S., Mao, J., Markoff, S., Marscher, A. P., Matsushita, S., Matthews, L. D., Medeiros, L., Menten, K. M., Michalik, D., Mizuno, I., Mizuno, Y., Moran, J. M., Moriyama, K., Müller, C., Musoke, G., Myserlis, I., Nadolski, A., Nagai, H., Nagar, N. M., Nakamura, M., Narayan, R., Narayanan, G., Natarajan, I., Nathanail, A., Navarro Fuentes, S., Neri, R., Ni, C., Noutsos, A., Oh, J., Okino, H., Olivares, H., Ortiz-León, G. N., Oyama, T., Özel, F., Palumbo, D. C. M., Paraschos, G. F., Park, J., Parsons, H., Patel, N., Pen, U.-L., Pesce, D. W., Piétu, V., Plambeck, R., PopStefanija, A., Porth, O., Pötzl, F. M., Prather, B., Preciado-López, J. A., Pu, H.-Y., Rao, R., Rawlings, M. G., Raymond, A. W., Rezzolla, L., Ricarte, A., Roelofs, F., Rogers, A., Ros, E., Romero-Canizales, C., Roshanineshat, A., Rottmann, H., Roy, A. L., Ruiz, I., Ruzszyk, C., Rygl, K. L. J., Sánchez, S., Sánchez-Argüelles, D., Sánchez-Portal, M., Sasada, M., Satapathy, K., Savolainen, T., Schloerb, F. P., Schuster, K.-F., Shao, L.,

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5. Satapathy, K., Psaltis, D., Özel, F., Medeiros, L., Dougall, S. T., Chan, C.-K., Wielgus, M., Prather, B. S., Wong, G. N., Gammie, C. F., Akiyama, K., Alberdi, A., Alef, W., Algaba, J. C., Anantua, R., Asada, K., Azulay, R., Baczko, A.-K., Ball, D., Baloković, M., Barrett, J., Benson, B. A., Bintley, D., Blackburn, L., Blundell, R., Boland, W., Bouman, K. L., Bower, G. C., Boyce, H., Bremer, M., Brinkerink, C. D., Brissenden, R., Britzen, S., Broderick, A. E., Brogiere, D., Bronzwaer, T., Bustamente, S., Byun, D.-Y., Carlstrom, J. E., Chael, A., Chatterjee, K., Chatterjee, S., Chen, M.-T., Chen, Y., Cho, I., Christian, P., Conway, J. E., Cordes, J. M., Crawford, T. M., Crew, G. B., Cruz-Osorio, A., Cui, Y., Davelaar, J., De Laurentis, M., Deane, R., Dempsey, J., Desvignes, G., Dexter, J., Doeleman, S. S., Eatough, R. P., Falcke, H., Farah, J., Fish, V. L., Fomalont, E., Ford, H. A., Fraga-Encinas, R., Friberg, P., Fromm, C. M., Fuentes, A., Galison, P., García, R., Gentaz, O., Georgiev, B., Goddi, C., Gold, R., Gómez-Ruiz, A. I., Gómez, J. L., Gu, M., Gurwell, M., Hada, K., Haggard, D., Hecht, M. H., Hesper, R., Ho, L. C., Ho, P., Honma, M., Huang, C.-W. L., Huang, L., Hughes, D. H., Ikeda, S., Inoue, M., Issaoun, S., James, D. J., Jannuzi, B. T., Janssen, M., Jeter, B., Jiang, W., Jimenez-Rosales, A., Johnson, M. D., Jorstad, S., Jung, T., Karami, M., Karuppusamy, R., Kawashima, T., Keating, G. K., Kettenis, M., Kim, D.-J., Kim, J.-Y., Kim, J., Kim, J., Kino, M., Koay, J. Y., Kofuji, Y., Koch, P. M., Koyama, S., Kramer, C., Kramer, M., Krichbaum, T. P., Kuo, C.-Y., Lauer, T. R., Lee, S.-S., Levis, A., Li, Y.-R., Li, Z., Lindqvist, M., Lico, R., Lindahl, G., Liu, J., Liu, K., Liuzzo, E., Lo, W.-P., Lobanov, A. P., Loinard, L., Lonsdale, C., Lu, R.-S., MacDonald, N. R., Mao, J., Marchili, N., Markoff, S., Marrone, D. P., Marscher, A. P., Martí-Vidal, I., Matsushita, S., Matthews, L. D., Menten, K. M., Mizuno, I., Mizuno, Y., Moran, J. M., Moriyama, K., Moscibrodzka, M., Müller, C., Mejías, A. M., Musoke, G., Nagai, H., Nagar, N. M., Nakamura, M., Narayan, R., Narayanan, G., Natarajan, I., Nathanail, A., Neilsen, J., Neri, R., Ni, C., Noutsos, A., Nowak, M. A., Okino, H., Olivares, H., Ortiz-León, G. N., Oyama, T., Palumbo, D. C. M., Park, J., Patel, N., Pen, U.-L., Pesce, D. W., Piétu, V., Plambeck, R., PopStefanija, A., Porth, O., Pötzl, F. M., Preciado-López, J. A., Pu, H.-Y., Ramakrishnan, V., Rao, R., Rawlings, M. G., Raymond, A. W., Rezzolla, L., Ripperda, B., Roelofs, F., Rogers, A., Ros, E., Rose, M., Roshanineshat, A., Rottmann, H., Roy, A. L., Ruszczyk, C., Rygl, K. L. J., Sánchez, S., Sánchez-Arguelles, D., Sasada, M., Savolainen, T., Schloerb, F. P., Schuster, K.-F., Shao, L., Shen, Z., Small, D., Sohn, B. W., SooHoo, J., Sun, H., Tazaki, F., Tetarenko, A. J., Tiede, P., Tilanus, R. P. J., Titus, M., Toma, K., Torne, P., Traianou, E., Trent, T., Trippe, S., van Bemmell, I., van Langevelde, H. J., van Rossum, D. R., Wagner, J., Ward-Thompson, D., Wardle, J., Weintraub, J., Wex, N., Wharton, R., Wiik, K., Wu, Q., Yoon, D., Young, A., Young, K., Younsi, Z., Yuan, F., Yuan, Y.-F., Zensus, J. A., Zhao, G.-Y., & Zhao, S.-S. (2022). The Variability of the Black Hole Image in M87 at the Dynamical Timescale. *The Astrophysical Journal*, 925, 13. <https://doi.org/10.3847/1538-4357/ac332e>
  6. Motloch, P., Pen, U.-L., & Yu, H.-R. (2022). Correlating galaxy shapes and initial conditions: An observational study. *Physical Review D*, 105, 083504. <https://doi.org/10.1103/PhysRevD.105.083504>
  7. Motloch, P., Pen, U.-L., & Yu, H.-R. (2022). Observational search for primordial chirality violations using galaxy angular momenta. *Physical Review D*, 105, 083512. <https://doi.org/10.1103/PhysRevD.105.083512>

8. Marthi, V. R., Bethapudi, S., Main, R. A., Lin, H.-H., Spitler, L. G., Wharton, R. S., Li, D. Z., Gautam, T., Pen, U.-L., & Hilmarsson, G. H. (2022). Burst properties of the highly active FRB20201124A using uGMRT. *Monthly Notices of the Royal Astronomical Society*, 509, 2209-2219. <https://doi.org/10.1093/mnras/stab3067>
9. Lin, H.-H., Lin, K.-y., Li, C.-T., Tseng, Y.-H., Jiang, H., Wang, J.-H., Cheng, J.-C., Pen, U.-L., Chen, M.-T., Chen, P., Chen, Y., Goto, T., Hashimoto, T., Hwang, Y.-J., King, S.-K., Kubo, D., Kuo, C.-Y., Mills, A., Nam, J., Oshiro, P., Shen, C.-S., Tseng, H.-C., Wang, S.-H., Wu, V. F.-S., Bower, G., Chang, S.-H., Chen, P.-A., Chen, Y.-C., Chiang, Y.-K., Fedynitch, A., Gusinskaia, N., Ho, S. C.-C., Hsiao, T. Y.-Y., Hu, C.-P., Huang, Y. D., Jáuregui García, J. M., Kim, S. J., Kuo, C.-Y., Ling, D. F.-J., On, A. Y. L., Peterson, J. B., R. Raquel, B. J., Su, S.-C., Uno, Y., Wu, C. K.-W., Yamasaki, S., & Zhu, H.-M. (2022). BURSTT: Bustling Universe Radio Survey Telescope in Taiwan. *Publications of the Astronomical Society of the Pacific*, 134, 094106. <https://doi.org/10.1088/1538-3873/ac8f71>
10. Leung, C., Kader, Z., Masui, K. W., Dobbs, M., Michilli, D., Mena-Parra, J., Mckinven, R., Ng, C., Bandura, K., Bhardwaj, M., Brar, C., Cassanelli, T., Chawla, P., Dong, F. A., Good, D., Kaspi, V., Lanman, A. E., Lin, H.-H., Meyers, B. W., Pearlman, A. B., Pen, U.-L., Petroff, E., Pleunis, Z., Rafiei-Ravandi, M., Rahman, M., Sanghavi, P., Scholz, P., Shin, K., Siegel, S., Smith, K. M., Stairs, I., Tendulkar, S. P., & Vanderlinde, K. (2022). Constraining primordial black holes using fast radio burst gravitational-lens interferometry with CHIME/FRB. *Physical Review D*, 106, 043017. <https://doi.org/10.1103/PhysRevD.106.043017>
11. Kirsten, F., Marcote, B., Nimmo, K., Hessels, J. W. T., Bhardwaj, M., Tendulkar, S. P., Keimpema, A., Yang, J., Snelders, M. P., Scholz, P., Pearlman, A. B., Law, C. J., Peters, W. M., Giroletti, M., Paragi, Z., Bassa, C., Hewitt, D. M., Bach, U., Bezrukovs, V., Burgay, M., Buttaccio, S. T., Conway, J. E., Corongiu, A., Feiler, R., Forssén, O., Gawroński, M. P., Karuppusamy, R., Kharinov, M. A., Lindqvist, M., Maccaferri, G., Melnikov, A., Ould-Boukattine, O. S., Possenti, A., Surcis, G., Wang, N., Yuan, J., Aggarwal, K., Anna-Thomas, R., Bower, G. C., Blaauw, R., Burke-Spolaor, S., Cassanelli, T., Clarke, T. E., Fonseca, E., Gaensler, B. M., Gopinath, A., Kaspi, V. M., Kassim, N., Lazio, T. J. W., Leung, C., Li, D. Z., Lin, H. H., Masui, K. W., Mckinven, R., Michilli, D., Mikhailov, A. G., Ng, C., Orbidans, A., Pen, U. L., Petroff, E., Rahman, M., Ransom, S. M., Shin, K., Smith, K. M., Stairs, I. H., & Vlemmings, W. (2022). A repeating fast radio burst source in a globular cluster. *Nature*, 602, 585-589. <https://doi.org/10.1038/s41586-021-04354-w>
12. Kader, Z., Leung, C., Dobbs, M., Masui, K. W., Michilli, D., Mena-Parra, J., McKinven, R., Ng, C., Bandura, K., Bhardwaj, M., Brar, C., Cassanelli, T., Chawla, P., Dong, F. A., Good, D., Kaspi, V., Lanman, A. E., Lin, H.-H., Meyers, B. W., Pearlman, A. B., Pen, U.-L., Petroff, E., Pleunis, Z., Rafiei-Ravandi, M., Rahman, M., Sanghavi, P., Scholz, P., Shin, K., Siegel, S., Smith, K. M., Stairs, I., Tendulkar, S. P., Vanderlinde, K., Wulf, D., & Collaboration, C. F. (2022). High-time resolution search for compact objects using fast radio burst gravitational lens interferometry with CHIME/FRB. *Physical Review D*, 106, 043016. <https://doi.org/10.1103/PhysRevD.106.043016>
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## Contributions to Conferences

1. Ue-Li Pen(2023) , Keynote invited lecture, 2nd NCTS/UCAT/NTHU International Astronomy Winter School: Magnetism in Star-Forming and Galactic Environments, February 4th, 2023
2. Ue-Li Pen(2022) “News From Black Hole Event Horizons”, Institute of Astronomy and Astrophysics, Academia Sinica, November 19, 2022
3. Ue-Li Pen(2022)”Wave particle duality revisited: Picard-Lefschetz interpretation in astrophysics, quantum cosmology and beyond”,Institute of Physics, Academia Sinica, November 8, 2022
4. Ue-Li Pen(2022)”Black Hole”, Academia Sinica, October 29, 2022
5. Ue-Li Pen(2022)”Surveying the nearest FRBs”, Cornell University, October 11, 2022
6. Ue-Li Pen(2022)”Cosmological scalar helicity”, Kavli Institute for the Physics and Mathematics of the Universe, September 5, 2022
7. Ue-Li Pen(2022)”Imaginary Paths: new tools for cosmology, GW, FRBs”, Association of Asia Pacific Physical Societies, August 26, 2022
8. Ue-Li Pen(2022)“Probing the universe with Fast Radio Bursts”, Canadian Institute for Theoretical Astrophysics(CITA), July 11, 2022
9. Ue-Li, Pen (2022)“From GRBs, Baryogenesis to FRBs”, Astrophysics in the Next Decade: From the First Stars to Intelligent Life(CIERA conference), June 6th, 2022
10. Ue-Li Pen(2022)“Probing the universe with Fast Radio Bursts”, Canadian Institute for Theoretical Astrophysics(CITA), July 11, 2022
11. Ue-Li, Pen (2022)“From GRBs, Baryogenesis to FRBs”, Astrophysics in the Next Decade: From the First Stars to Intelligent Life(CIERA conference), June 6th, 2022
12. Ue-Li, Pen (2022)“Turok-Witten-Picard-Lefschetz quantum mechanics and quantum gravity”National Taiwan University. April 11, 2022
13. Ue-Li, Pen (2022) “Classical Mechanics, Quantum Mechanics, Quantum Cosmology: new view on the universe” National Changhua University of Education. March 9,2022
14. Ue-Li, Pen (2022) “Classical Mechanics, Quantum Mechanics, Quantum Cosmology: How the universe may have begun” National Yang Ming Chiao Tung University. March 3, 2022
15. Ue-Li, Pen (2022) “FRB Physics”. National Central University. Feb 18, 2022.
16. Ue-Li, Pen(2022). “Why do spiral galaxies rotate, and what can we learn from that?”. Astronomy on Tap. Taipei, Taiwan. Jan 21, 2022. 22 minutes.
17. Ue-Li, Pen(2022). “Classical and quantum completeness of transient black hole space times”. National Taiwan University, Taipei, Taiwan. January 14, 2022.
18. Ue-Li, Pen(2021). “Broadbeam Radio Survey Telescope (BRST)”. Science at Low Frequencies(SALF). December 8, 2021.

19. Ue-Li, Pen(2021). “FRB Physics”. National Taiwan Normal University, Taipei, Taiwan. November 16. 75 minutes.
20. Ue-Li Pen(2021). “Picard-Lefschetz Path Integrals for astrophysical lensing: imaging stars, planets and dark matter”. National Taiwan University, Taipei, Taiwan. December 14. 60 minutes.
21. Ue-Li, Pen (2021). “FRBs: Coherent probes of space-time”. FRB 2021(Virtual), International Conference. August.,4. 20 minutes. Plenary.
22. Ue-Li, Pen (2021). “FRBs: Coherent probes of space-time”.CITA, Toronto, Canada. July.,22. 60 minutes.
23. Ue-Li, Pen (2021). “Wave Optics Lensing: cosmology and fundamental physics from gravitational and plasma lensing of FRBs and other coherent sources”. Heidelberg Institute for Theoretical Physics (virtual), Heidelberg, Germany. May.,18. 60 minutes
24. Ue-Li, Pen(2020). “Cosmic fossils: Galaxy Directional Spin”. Edinburgh’s Royal Observatory (virtual), Edinburgh, United Kingdom. October., 28. 60 minutes.
25. Ue-Li, Pen. (2020). “the Stockert Radioteleskop upgrade”. Dunlap Institute for Astronomy and Astrophysics, University of Toronto. Toronto, Canada. Apr., 20. 20 mins.
26. Ue-Li, Pen. (2020). “Gravitational Waves: Resolution, Sources, Confusion”. Max Planck Institute for Radio Astronomy. Bonn, Germany. Feb., 19. 60 mins
27. Ue-Li, Pen. (2020). “Galaxy spin: a cosmic fossil”. Albert-Einstein-Institute and the Leibniz-Institute for Astrophysics. Potsdam, Germany. Feb., 20. 45 mins.
28. Ue-Li, Pen. (2020). “Fast Radio Bursts: CHIME and beyond”. Academia Sinica. Taipei, Taiwan. Jan., 16. 45 mins.
29. Luo, J.; Pen, U.; Van Kerkwijk, M.; Demorest, P.; Main, R. (2020). Is the Black Widow Pulsar Eclipsed by its Companion?. Bulletin of the American Astronomical Society. 235th American Astronomical Society meeting, Honolulu, United States. American Astronomical Society. (Conference Date: 2020/1. Invited)
30. Pen, Ue-Li. (2020). Nonlinear Reconstruction: the Cosmic Web Inside Out. the Lorentz Center workshop. Leiden University, Netherlands. Lorentz Center. (Conference Date: 2020/1. Invited)
31. Ue-Li, Pen. (2019). “Fast Radio Bursts: present and future”. Oxford University. The United Kingdom. Nov., 25. 45 mins.
32. Ue-Li, Pen. (2019). “CHIME and beyond”. Laboratoire d'Annecy-le-Vieux de Physique Théorique. Annecy, France. Nov., 14. 60 mins.
33. Ue-Li, Pen. (2019). “Gravitational Waves”.Max Planck Institute for Theoretical Astrophysics. Bonn, Germany. Oct., 16. 30 mins.
34. Pen, Ue-Li. (2019). The CHIME Telescope. Arecibo IPS Workshop. Puerto Rico. (Conference Date: 2019/12. invited)
35. Pen, Ue-Li. (2019). Cosmology and fundamental physics with FRBs. Cosmological Frontiers in Fundamental Physics 2019. Waterloo, Canada. Perimeter Institute. (Conference Date: 2019/9. Invited)

36. Pen. Ue-Li. (2019). Synergy of Plasma Lensing and Gravitational Lensing. Gravity meets Plasma workshop. South-Western Institute for Astronomy Research, China. (Conference Date: 2019/8. Invited)
37. Pen. Ue-Li. (2019). 21cm intensity mapping: current results and future potential. Future of Canadian Radio Astronomy Workshop.
38. Pen. Ue-Li.(2019)The Dominion Radio Astrophysical Observatory, British Columbia, Canada. (Conference Date: 2019/5. Invited)
39. Pen. Ue-Li. (2019). Interstellar Scintillation Theory and Experimentation: the Potential of 1-D Scintillation Screens in the Interstellar Medium. Scintillating Science: Cutting-Edge Science Achieved Through the Observations of Radio Scintillation Conference. South Africa National Space Agency, South Africa. (Conference Date: 2019/7. Invited)
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41. Kevin Bandura, Graeme E. Addison, Mandana Amiri, J. Richard Bond, Duncan Campbell Wilson, Liam Connor, Jean-Francois Cliche, Greg Davis, Meiling Deng, Nolan Denman, Matt Dobbs, Mateus Fandino, Kenneth Gibbs, Adam Gilbert, Mark Halpern, David Hanna, Adam D. Hincks, Gary Hinshaw, Carolin Hofer, Peter Klages, Tom L. Landecker, Kiyoshi Masui, Juan Mena, Laura B. Newburgh, Ue-Li Pen, Jeffrey B. Peterson, Andre Recnik, J. Richard Shaw, Kris Sigurdson, Michael Sitwell, Graeme Smecher, Rick Smegal, Keith Vanderlinde, Don Wiebe. (2015). An Efficient Real-time Data Pipeline for the CHIME Pathfinder Radio Telescope X Engine. arxiv. IEEE International Conference on Application-specific Systems, Architectures and Processors, Montreal, Canada, Conference Date: 2014/6
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44. Shapiro, Paul R and Iliev, IT and Mellema, G and Ahn, K and Mao, Y and Koda, J and Pen, U. (2012). New Results on Cosmic Reionization. AAS Meeting #219, Austin, United States, Conference Date: 2012/1