LIANG CHEN PubList

Liang Chen

2021 年 12 月 19 日

2021

1. L. Chen, X. Zhou, F. Chen, L. -L. Yang and R. Chen, "Carrier Phase Ranging for Indoor Positioning with 5G NR Signals," in IEEE Internet of Things Journal, doi: 10.1109/JIOT.2021.3125373.
2. Y. Yu, R. Chen, L. Chen, W. Li, Y. Wu and H. Zhou, "H-WPS: Hybrid Wireless Positioning System Using an Enhanced Wi-Fi FTM/RSSI/MEMS Sensors Integration Approach," in IEEE Internet of Things Journal, doi: 10.1109/JIOT.2021.3132023.
3. Z. Wang, R. Chen, S. Xu, Z. Liu, G. Guo and L. Chen, "A Novel Method Locating Pedestrian with Smartphone Indoors Using Acoustic Fingerprints," in IEEE Sensors Journal, doi: 10.1109/JSEN.2021.3126863.
4. Y. Yu, R. Chen, L. Chen, W. Li, Y. Wu and H. Zhou, "A Robust Seamless Localization Framework Based on Wi-Fi FTM / GNSS and Built-In Sensors," in IEEE Communications Letters, vol. 25, no. 7, pp. 2226-2230, July 2021, doi: 10.1109/LCOMM.2021.3071412.
5. Y. Yu, R. Chen, L. Chen, W. Li, Y. Wu and H. Zhou, "Autonomous 3D Indoor Localization Based on Crowdsourced Wi-Fi Fingerprinting And MEMS Sensors," in IEEE Sensors Journal, doi: 10.1109/JSEN.2021.3065951.
6. Y. Yu et al., "A Novel 3-D Indoor Localization Algorithm Based on BLE and Multiple Sensors," in IEEE Internet of Things Journal, vol. 8, no. 11, pp. 9359-9372, 1 June1, 2021, doi: 10.1109/JIOT.2021.3055794.
7. N. Shen et al., "Short-Term Landslide Displacement Detection Based on GNSS Real-Time Kinematic Positioning," in IEEE Transactions on Instrumentation and Measurement, vol. 70, pp. 1-14, 2021, Art no. 1004714, doi: 10.1109/TIM.2021.3055278.
8. X. Lu, L. Chen, N. Shen, L. Wang, Z. Jiao and R. Chen, "Decoding PPP Corrections From BDS B2b Signals Using a Software-Defined Receiver: An Initial Performance Evaluation," in IEEE Sensors Journal, vol. 21, no. 6, pp. 7871-7883, 15 March15, 2021, doi: 10.1109/JSEN.2020.3041486.
9. Wang, L., Wu, Z., Yang, J., Chen, L., & Chen, R. (2021). Performance of the non-iterative ToA-based positioning algorithms in complex indoor environments. Arabian Journal of Geosciences, 14(8). doi:10.1007/s12517-021-06996-6
10. Shen, N., Chen, L., Lu, X. C., Hu, H., Pan, Y. J., Gao, Z. Z., . . . Chen, R. Z. (2021). Online displacement extraction and vibration detection based on interactive multiple model algorithm. Mechanical Systems and Signal Processing, 155. doi:10.1016/j.ymssp.2020.107581

2020

11. Shen, N., Chen, L., Wang, L., Lu, X. C., Tao, T. Y., Yan, J., & Chen, R. Z. (2020). Site-specific real-time GPS multipath mitigation based on coordinate time series window matching. GPS Solutions, 24(3).

doi:10.1007/s10291-020-00994-z

12. Wang, Y., Chen, L., Wei, P., & Lu, X. (2020). Visual-Inertial Odometry of Smartphone under Manhattan World. Remote Sensing, 12(22), 3818.
13. Wang, Y., Guo, R., Wang, W., Li, X., Tang, S., Zhang, W., . . . Xiu, W. (2020). Near Relation-Based Indoor Positioning Method under Sparse Wi-Fi Fingerprints. ISPRS International Journal of Geo-Information, 9, 714. doi:10.3390/ijgi9120714
14. Yan, J., Cao, Y. M., Kang, B., Wu, X. H., & Chen, L. (2021). An ELM-Based Semi-Supervised Indoor Localization Technique With Clustering Analysis and Feature Extraction. IEEE Sensors Journal, 21(3), 3635-3644. doi:10.1109/jsen.2020.3028579
15. Yu, Y., Chen, R., Chen, L., Xu, S., Li, W., Wu, Y., & Zhou, H. (2020). Precise 3-D Indoor Localization Based on Wi-Fi FTM and Built-In Sensors. IEEE Internet of Things Journal, 7(12), 11753-11765. doi:10.1109/JIOT.2020.2999626
16. Yu, Y., Chen, R., Liu, Z., Guo, G., Ye, F., & Chen, L. (2020). Wi-Fi Fine Time Measurement: Data Analysis and Processing for Indoor Localisation. Journal of Navigation, 73(5), 1-23. doi:10.1017/S0373463320000193
17. Zhou, X., Chen, L., Yan, J., & Chen, R. Z. (2020). Accurate DOA Estimation With Adjacent Angle Power Difference for Indoor Localization. IEEE Access, 8, 44702-44713. doi:10.1109/access.2020.2977371

2019

18. Cao, Z. P., Cheng, Y. F., Chen, R. Z., Guo, G. Y., Ye, F., Chen, L., & Pan, Y. J. (2019). An infant monitoring system with the support of accurate real-time indoor positioning. Geo-spatial Information Science, 22(4), 279-289. doi:10.1080/10095020.2019.1631617
19. Guo, G. Y., Chen, R. Z., Ye, F., Chen, L., Pan, Y. J., Liu, M. Y., & Cao, Z. P. (2019). A Pose Awareness Solution for Estimating Pedestrian Walking Speed. Remote Sensing, 11(1). doi:10.3390/rs11010055
20. Pan, Y., Chen, R., Yi, S., Wang, W., Ding, H., Shen, W., & Chen, L. (2019). Contemporary Mountain‐Building of the Tianshan and its Relevance to Geodynamics Constrained by Integrating GPS and GRACE Measurements. *Journal of Geophysical Research: Solid Earth, 124*(11).
21. Shen, N., Chen, L., Liu, J. B., Wang, L., Tao, T. Y., Wu, D. W., & Chen, R. Z. (2019). A Review of Global Navigation Satellite System (GNSS)-Based Dynamic Monitoring Technologies for Structural Health Monitoring. Remote Sensing, 11(9). doi:10.3390/rs11091001
22. Yan, J., Zhu, B. C., Chen, L., Wang, J., & Liu, J. B. (2019). Error Analysis on Indoor Localization with Visible Light Communication. Remote Sensing, 11(4). doi:10.3390/rs11040427
23. Yu, Y., Chen, R. Z., Chen, L., Guo, G. Y., Ye, F., & Liu, Z. Y. (2019). A Robust Dead Reckoning Algorithm Based on Wi-Fi FTM and Multiple Sensors. Remote Sensing, 11(5). doi:10.3390/rs11050504
24. 陈锐志, 王磊, 李德仁, 陈亮, & 付文举. (2019). 导航与遥感技术融合综述. *测绘学报, 48*(12), 1507-1522. doi:10.11947/j.AGCS.2019.20190446

2018

25. Chen, L., Julien, O., Lohan, E. S., Seco-Granados, G., & Chen, R. Z. (2018). Mobile Geospatial Computing Systems for Ubiquitous Positioning. Mobile Information Systems, 2018.

doi:10.1155/2018/9138095

26. Li, M., Chen, R. Z., Liao, X., Guo, B. X., Chen, L., Liu, J. B., . . . Ieee. (2018). A Real-time Indoor Visual Localization and Navigation Method Based on Tango Smartphone. In Proceedings of 5th Ieee Conference on Ubiquitous Positioning, Indoor Navigation And Location-Based Services (pp. 276-281). (UPINLBS).
27. Liang, X., Hyyppä, J., Kaartinen, H., Lehtomäki, M., Pyörälä, J., Pfeifer, N., . . . Wang, Y. (2018). International benchmarking of terrestrial laser scanning approaches for forest inventories. ISPRS Journal of Photogrammetry and Remote Sensing, 144, 137-179. doi:https://doi.org/10.1016/j.isprsjprs.2018.06.021
28. Lohan, E. S., Alén-Savikko, A., Chen, L., Järvinen, K., Leppäkoski, H., Kuusniemi, H., & Korpisaari, P. (2018). *A Comprehensive Guide to 5G Security ， 5G positioning: security and privacy aspects*.
29. Wang, L., Chen, R. Z., Chen, L., Shen, L. L., Zhang, P., Pan, Y. J., . . . Ieee. (2018). A Robust Filter for TOA Based Indoor Localization in Mixed LOS/NLOS Environment. In Proceedings of 5th Ieee Conference on Ubiquitous Positioning, Indoor Navigation And Location-Based Services (pp. 389-397). (UPINLBS).
30. Yan, J., Zhao, L., Tang, J., Chen, Y. W., Chen, R. Z., & Chen, L. (2018). Hybrid Kernel Based Machine Learning Using Received Signal Strength Measurements for Indoor Localization. IEEE Transactions on Vehicular Technology, 67(3), 2824-2829. doi:10.1109/tvt.2017.2774103
31. Guo, G. Y., Chen, R. Z., Pan, Y. J., Cao, Z. P., Chen, L., & Ieee. (2018). Multi-Sensors Walking Speed Estimation Robust against the Dynamics of Handheld Devices. In Proceedings of 5th Ieee Conference on Ubiquitous Positioning, Indoor Navigation And Location-Based Services (pp. 491-496).

2017

32. Chen, L., Thombre, S., Järvinen, K., Lohan, E. S., Alén-Savikko, A., Leppäkoski, H., . . . Kuusniemi, H. (2017). Robustness, Security and Privacy in Location-Based Services for Future IoT: A Survey. *IEEE Access, 5*, 8956-8977. doi:10.1109/ACCESS.2017.2695525
33. Chen, L., Yang, L. L., Yan, J., & Chen, R. Z. (2017). Joint Wireless Positioning and Emitter Identification in DVB-T Single Frequency Networks. IEEE Transactions on Broadcasting, 63(3), 577-582. doi:10.1109/tbc.2017.2704422
34. Pei, L., Liu, J., Chen, Y., Chen, R., & Chen, L. (2017). Evaluation of fingerprinting-based WiFi indoor localization coexisted with Bluetooth. *The Journal of Global Positioning Systems, 15*(1), 3. doi:10.1186/s41445-017-0008-x
35. Qian, C., Liu, H., Tang, J., Chen, Y., Kaartinen, H., Kukko, A., . . . Hyyppä, J. (2017). An Integrated GNSS/INS/LiDAR-SLAM Positioning Method for Highly Accurate Forest Stem Mapping. *Remote Sensing, 9*(1), 3.
36. Wu, D. W., Chen, R. Z., & Chen, L. (2017). Visual Positioning Indoors: Human Eyes vs. Smartphone Cameras. Sensors, 17(11). doi:10.3390/s17112645
37. Yan, J., Yu, K. G., Cao, Y. Q., & Chen, L. (2017). Attack-Resistant Received Signal Strength based Compressive Sensing Wireless Localization. KSII Transactions on Internet and Information Systems, 11(9), 4418-4437. doi:10.3837/tiis.2017.09.013
38. Yan, J., Yu, K. G., Chen, R. Z., & Chen, L. (2017). An Improved Compressive Sensing and Received Signal Strength-Based Target Localization Algorithm with Unknown Target Population for Wireless

Local Area Networks. Sensors, 17(6). doi:10.3390/s17061246

39. 陈锐志, & 陈亮. (2017). 基于智能手机的室内定位技术的发展现状和挑战. *测绘学报, 046*(010), 1316-1326. doi: 10.11947

2016

40. Chen, L., Thevenon, P., Seco-Granados, G., Julien, O., & Kuusniemi, H. (2016). Analysis on the TOA Tracking With DVB-T Signals for Positioning. *IEEE Transactions on Broadcasting, 62*(4), 957-961. doi:10.1109/TBC.2016.2606939
41. Kuusniemi, H., Lohan, E. S., Järvinen, K., Korpisaari, P., Thombre, S., Bhuiyan, M. Z., . . . Alen-Savikko, A. (2016). *Information security of location estimation-increasing trustworthiness.* Paper presented at the ESA Workshop on Satellite Navigation Technologies and European Workshop on GNSS Signals and Signal Processing.
42. Liang, C. (2016-05-23). *基于 OFDM 数字广播信号的无线定位关键技术研究*: Golden Light Academic Publishing.
43. Ruotsalainen, L., Chen, L., Kirkko-Jaakkola, M., Gröhn, S., & Kuusniemi, H. (2016). INTACT- Towards infrastructure-free tactical situational awareness. *European Journal of Navigation, 14*(4), 33-38.
44. Ruotsalainen, L., Guinness, R., Gröhn, S., Chen, L., Kirkko-Jaakkola, M., & Kuusniemi, H. (2016). *Situational awareness for tactical applications.* Paper presented at the Proceedings of the 29th International Technical Meeting of the Satellite Division of The Institute of Navigation (ION GNSS+ 2016).
45. Ruotsalainen, L., Kirkko-Jaakkola, M., Chen, L., Gröhn, S., Guinness, R., & Kuusniemi, H. (2016). *Multi-sensor SLAM for tactical situational awareness.* Paper presented at the Proceedings of the 2016 International Technical Meeting of The Institute of Navigation.
46. Thombre, S., Kuusniemi, H., Söderholm, S., Chen, L., Guinness, R., Pietrzykowski, Z., & Wołejsza, P. (2016). Operational Scenarios for Maritime Safety in the Baltic Sea. *NAVIGATION, 63*(4), 521-531. *doi:https://doi.org/10.1002/navi.161*
47. Yan, J., He, Y., Zhu, B., & Chen, L. (2016). *Mobile device orientation estimation using visible light communication system.* Paper presented at the 2016 European Navigation Conference (ENC).

2015

48. Chen, L., Julien, O., Thevenon, P., Serant, D., Peña, A. G., & Kuusniemi, H. (2015). TOA Estimation for Positioning With DVB-T Signals in Outdoor Static Tests. *IEEE Transactions on Broadcasting, 61*(4), 625-638. doi:10.1109/TBC.2015.2465155
49. Chen, L., Kuusniemi, H., Chen, Y., Liu, J., Pei, L., Ruotsalainen, L., & Chen, R. (2015, 31 Aug.-4 Sept. 2015). *Constraint Kalman filter for indoor bluetooth localization.* Paper presented at the 2015 23rd European Signal Processing Conference (EUSIPCO).
50. Jiang, W., Pei, L., Xu, C., Chen, L., & Yu, W. (2015). Two-stage Localisation Scheme Using a Small-scale Linear Microphone Array for Indoor Environments. *Journal of Navigation, 68*(5), 915-936. doi:10.1017/S0373463315000107
51. Kuusniemi, H., Thombre, S., Söderholm, S., Chen, L., Guinness, R., Pietrzykowski, Z., & Wolejsza, P. (2015). *Operational Scenarios for Maritime Safety in the Baltic Sea.* Paper presented at the Proceedings of the 28th International Technical Meeting of the Satellite Division of The Institute of

Navigation (ION GNSS+ 2015).

52. Nevalainen, S., Thombre, S., Kaasalainen, . . . Karjalainen. (2015). Feasibility of Sentinel-1 data for enhanced maritime safety and situational awareness. *European journal of navigation: The leading journal for systems, services and applications, 13*(3), 24-32.
53. Ruotsalainen, L., Gröhn, S., Kirkko-Jaakkola, M., Chen, L., Guinness, R., & Kuusniemi, H. (2015, 13-16 Oct. 2015). *Monocular visual SLAM for tactical situational awareness.* Paper presented at the 2015 International Conference on Indoor Positioning and Indoor Navigation (IPIN).
54. Tang, J., Chen, Y., Chen, L., Liu, J., Hyyppä, J., Kukko, A., . . . Chen, R. (2015). Fast fingerprint database maintenance for indoor positioning based on UGV SLAM. *Sensors (Basel, Switzerland), 15*(3), 5311-5330. doi:10.3390/s150305311
55. Tang, J., Chen, Y., Niu, X., Wang, L., Chen, L., Liu, J., . . . Hyyppä, J. (2015). LiDAR Scan Matching Aided Inertial Navigation System in GNSS-Denied Environments. Sensors, 15(7), 16710-16728.
56. Thombre, S., Guinness, R., Chen, L., Ruotsalainen, L., Kuusniemi, H., Uriasz, J., . . . Ghawi, P. (2015). ESABALT Improvement of Situational Awareness in the Baltic with the Use of Crowdsourcing. *TransNav, the International Journal on Marine Navigation and Safety of Sea Transportation, 9*(2), 183-189. doi:10.12716/1001.09.02.04

2014

57. Chen, L., Lohan, E. S., Julien, O., Thevenon, P., Macabiau, C., Ruotsalainen, L., & Kuusniemi, H. (2014, 24-26 June 2014). *Delay estimation for DVB-T signals in adverse multipath scenarios.* Paper presented at the International Conference on Localization and GNSS 2014 (ICL-GNSS 2014).
58. Chen, L., Piché, R., Kuusniemi, H., & Chen, R. (2014). Adaptive mobile tracking in unknown non-line-of-sight conditions with application to digital TV networks. *EURASIP Journal on Advances in Signal Processing, 2014*(1), 22. doi:10.1186/1687-6180-2014-22
59. Chen, R., Chu, T., Liu, J., Chen, Y., Chen, L., Xu, W., . . . Tang, J. (2014, 20-21 Nov. 2014). *Development of a contextual thinking engine in mobile devices.* Paper presented at the 2014 Ubiquitous Positioning Indoor Navigation and Location Based Service (UPINLBS).
60. Chen, R., Chu, T., Liu, J., Li, X., Chen, Y., Chen, L., & Xu, W. (2014). DGNSS-C: A differential solution for enhancing smartphone GNSS performance. *27th International Technical Meeting of the Satellite Division of the Institute of Navigation, ION GNSS 2014, 1*, 490-497.
61. Chen, Y., Liu, J., Jaakkola, A., Hyyppä, J., Chen, L., Hyyppä, H., . . . Chen, R. (2014, 5-8 May 2014). *Knowledge-based indoor positioning based on LiDAR aided multiple sensors system for UGVs.* Paper presented at the 2014 IEEE/ION Position, Location and Navigation Symposium - PLANS 2014.
62. Liang, C., Heidi, K., Yuwei, C., Ling, P., Jingbin, L., Jian, T., . . . Ruizhi, C. (2014). Information Filter-Assisted Indoor Bluetooth Positioning. In V. Seppo (Ed.), *Advancing Embedded Systems and Real-Time Communications with Emerging Technologies* (pp. 162-177). Hershey, PA, USA: IGI Global.
63. Liu, J., Chen, Y., Jaakkola, A., Hakala, T., Hyyppä, J., Chen, L., . . . Hyyppä, H. (2014, 5-8 May 2014). *The uses of ambient light for ubiquitous positioning.* Paper presented at the 2014 IEEE/ION Position, Location and Navigation Symposium - PLANS 2014.

2013

64. Bhuiyan, M. Z. H., Kuusniemi, H., Chen, L., Pei, L., Ruotsalainen, L., Guinness, R., & Chen, R. (2013).

Performance Evaluation of Multi-Sensor Fusion Models in Indoor Navigation. *European Journal of Navigation, 11*(2), 21-28.

65. Chen, L., Pei, L., Kuusniemi, H., Chen, Y., Kröger, T., & Chen, R. (2013). Bayesian Fusion for Indoor Positioning Using Bluetooth Fingerprints. *Wireless Personal Communications, 70*(4), 1735-1745. doi:10.1007/s11277-012-0777-1
66. Pei, L., Chen, L., Guinness, R., Liu, J., Kuusniemi, H., Chen, Y., . . . Soderholm, S. (2013). [IEEE 2013 International Conference on Indoor Positioning and Indoor Navigation (IPIN) - Montbeliard, France (2013.10.28-2013.10.31)] International Conference on Indoor Positioning and Indoor Navigation - Sound positioning using a small-scale linear microp. 1-7.
67. Pei, L., Chen, L., Guinness, R., Liu, J., Kuusniemi, H., Chen, Y., . . . Söderholm, S. (2013). *Sound positioning using a small-scale linear microphone array*.
68. Pei, L., Guinness, R., Chen, R., Liu, J., Kuusniemi, H., Chen, Y., . . . Kaistinen, J. (2013). Human behavior cognition using smartphone sensors. *Sensors (Basel, Switzerland), 13*(2), 1402-1424. doi:10.3390/s130201402
69. Ruotsalainen, L., Kuusniemi, H., Bhuiyan, M. Z. H., Chen, L., & Chen, R. (2013). A two-dimensional pedestrian navigation solution aided with a visual gyroscope and a visual odometer. *GPS Solutions, 17*(4), 575-586. doi:10.1007/s10291-012-0302-8

2012

70. Bhuiyan, M. Z. H., Kuusniemi, H., Chen, L., Ruotsalainen, L., Pei, L., Guinness, R., & Chen, R. (2012, 25-27 June 2012). *Utilizing building layout for performance optimization of a multi-sensor fusion model in indoor navigation.* Paper presented at the 2012 International Conference on Localization and GNSS.
71. Chen, L., Ali-Löytty, S., Piché, R., & Wu, L. (2012). Mobile Tracking in Mixed Line-of-Sight/Non-Line-of-Sight Conditions: Algorithm and Theoretical Lower Bound. *Wireless Personal Communications, 65*(4), 753-771. doi:10.1007/s11277-011-0294-7
72. Chen, L., Yang, L., & Chen, R. (2012, 3-4 Oct. 2012). *Time delay tracking for positioning in DTV networks.* Paper presented at the 2012 Ubiquitous Positioning, Indoor Navigation, and Location Based Service (UPINLBS).
73. Chen, R., Pei, L., Kuusniemi, H., Chen, Y., Chen, L., & Kröger, T. (2012). Motion Restricted Information Filter for Indoor Bluetooth Positioning. *Int. J. Embed. Real-Time Commun. Syst., 3*(3), 54–66. doi:10.4018/jertcs.2012070104
74. Chen, Y., Liu, J., Ruotsalainen, L., Chen, L., Kröger, T., Kuusniemi, H., . . . Wang, Y. (2012, 23-26 April 2012). *Lane detection based on a visual-aided multiple sensors platform.* Paper presented at the Proceedings of the 2012 IEEE/ION Position, Location and Navigation Symposium.
75. Kuusniemi, H., Bhuiyan, M. Z. H., Ström, M., Söderholm, S., Jokitalo, T., Chen, L., & Chen, R. (2012, 13-15 Nov. 2012). *Utilizing pulsed pseudolites and high-sensitivity GNSS for ubiquitous outdoor/indoor satellite navigation.* Paper presented at the 2012 International Conference on Indoor Positioning and Indoor Navigation (IPIN).
76. Kuusniemi, H., Chen, Y., & Chen, L. (2012). Multi-Sensor Multi-Network Positioning. *Ubiquitous Positioning and Mobile Location-Based Services in Smart Phones*, 97-129. doi:10.4018/978-1-4666-1827-5.ch005
77. Kuusniemi, H., Liu, J., Pei, L., Chen, Y., Chen, L., & Chen, R. (2012). Reliability considerations of

multi-sensor multi-network pedestrian navigation. *IET Radar, Sonar and Navigation, 6*(3), 157-164. doi:10.1049/iet-rsn.2011.0247

78. Liu, J., Chen, R., Chen, Y., Pei, L., & Chen, L. (2012). iParking: An Intelligent Indoor Location-Based Smartphone Parking Service. *Sensors, 12*(11), 14612-14629. Retrieved from https://www.mdpi.com/1424-8220/12/11/14612
79. Pei, L., Liu, J., Guinness, R., Chen, Y., Kröger, T., Chen, R., & Chen, L. (2012, 3-4 Oct. 2012). *The evaluation of WiFi positioning in a Bluetooth and WiFi coexistence environment.* Paper presented at the 2012 Ubiquitous Positioning, Indoor Navigation, and Location Based Service (UPINLBS).

2011

80. Chen, L., Kuusniemi, H., Chen, Y., Pei, L., Kröger, T., & Chen, R. (2011, 29-30 June 2011). *Information filter with speed detection for indoor Bluetooth positioning.* Paper presented at the 2011 International Conference on Localization and GNSS (ICL-GNSS).
81. Hu, H., Li, G., Liang, C., Sang, J., Shouyan, W., Lutman, M. E., & Bleeck, S. (2011, 29 Aug.-2 Sept. 2011). *Enhanced sparse speech processing strategy for cochlear implants.* Paper presented at the 2011 19th European Signal Processing Conference.
82. Kuusniemi, H., Chen, L., Chen, Y., Pei, L., Liu, J., Ruotsalainen, L., & Chen, R. (2011). *Evaluation of Bayesian Approaches for Multi-sensor Multi-network Seamless Positioning* (Vol. 3).
83. Kuusniemi, H., Chen, L., Ruotsalainen, L., Pei, L., Chen, Y., & Chen, R. (2011, 29-30 June 2011). *Multi-sensor multi-network seamless positioning with visual aiding.* Paper presented at the 2011 International Conference on Localization and GNSS (ICL-GNSS).

2010

84. Liang, C., Pesonen, H., & Piché, R. (2010, 14-15 Oct. 2010). *Mobile tracking in unknown non-line-of-sight conditions.* Paper presented at the 2010 Ubiquitous Positioning Indoor Navigation and Location Based Service.
85. Liang, C., & Piché, R. (2010, 26-29 July 2010). *Mobile tracking and parameter learning in unknown non-line-of-sight conditions.* Paper presented at the 2010 13th International Conference on Information Fusion.

2009

86. Chen, L., Cheng, H., & Wu, L. (2009). Modulation classification of MPSK signals based on nonparametric Bayesian inference. *Journal of Southeast University. English Edition, 25*(2), 171-174.
87. Chen, L., & Wu, L. (2009). Mobile Positioning in Mixed LOS/NLOS Conditions Using Modified EKF Banks and Data Fusion Method. *IEICE Transactions on Communications, E92.B*(4), 1318-1325. doi:10.1587/transcom.E92.B.1318
88. Chen, L., Wu, L., & Piche, R. (2009, 24-28 Aug. 2009). *Posterior Cramer-Rao lower bound for mobile tracking in mixed LOS/NLOS conditions.* Paper presented at the 2009 17th European Signal Processing Conference.
89. Liang, C., & Lenan, W. (2009, 25-28 May 2009). *Mobile localization with NLOS mitigation using*

improved Rao-Blackwellized Particle Filtering algorithm. Paper presented at the 2009 IEEE 13th International Symposium on Consumer Electronics.

90. Tao, D., Chen, L., & Wu, L. (2009, 24-26 Sept. 2009). *Mobile Location Estimator in Mixed LOS/NLOS Conditions Using UKF Banks.* Paper presented at the 2009 5th International Conference on Wireless Communications, Networking and Mobile Computing.

2008

91. Chen, L., Hu, H., & Wu, Z. (2008, 18-20 Oct. 2008). *Head-Related Impulse Response Interpolation in Virtual Sound System.* Paper presented at the 2008 Fourth International Conference on Natural Computation.
92. Chen, L., Jin, L., He, F., Cheng, H., & Wu, L. (2008). Dynamic Network Selection for Multicast Services in Wireless Cooperative Networks. *IEICE Transactions on Communications, E91.B*(10), 3069-3076. doi:10.1093/ietcom/e91-b.10.3069
93. Chen, L., Zou, H., Wu, L., & Hu, H. (2008, 12-14 Oct. 2008). *Modified Particle Filtering for Wireless Tracking in Digital Broadcasting System.* Paper presented at the 2008 4th International Conference on Wireless Communications, Networking and Mobile Computing.
94. Hu, H., Chen, L., & Wu, Z. y. (2008, 18-20 Oct. 2008). *The Estimation of Personalized HRTFs in Individual VAS.* Paper presented at the 2008 Fourth International Conference on Natural Computation.
95. Huanzhong, Z., Liang, C., Feng, H., & Lenan, W. (2008, 25-27 Aug. 2008). *Joint mean matching NLOS mitigation method in TOA location.* Paper presented at the 2008 Third International Conference on Communications and Networking in China.
96. 金乐, 陈亮, & 吴乐南. (2008). *A Channel Model Simulation for Positioning Using DTV SFN 利用 DTV 单频网定位的信道模型和仿真实现*. Paper presented at the Proceedings of 19th Computer Technology and Application 全国第 19 届计算机技术与应用学术会议(CACIS •2008)论文集, 合肥. http://www.wanfangdata.com.cn/details/detail.do?_type=conference&id=6731861

2007

97. Cheng, H., Han, H., Wu, L., & Chen, L. (2007, 24-27 Aug. 2007). *A 1-Dimension Structure Adaptive Self-Organizing Neural Network for QAM Signal Classification.* Paper presented at the Third International Conference on Natural Computation (ICNC 2007).
98. Liang, C., Le, J., & Lenan, W. (2007, 21-25 Sept. 2007). *Service Scheduling and Network Selection in Cellular and Broadcasting Cooperative Networks.* Paper presented at the 2007 International Conference on Wireless Communications, Networking and Mobile Computing.

2006

99. 陈亮, 戚晨皓, & 吴乐南. (2006). *Wireless ADSL based on T-DMB: a new mode for mobile multimedia communications 基于 T-DMB 的“无线 ADSL”移动多媒体通信新模式*. Paper presented at the Proceedings of 1st Conference on Human Machine Harmonious Environment 第二届和谐人机环境联合学术会议(HHME2006)——第 15 届中国多媒体学术会议(NCMT'06), 中国浙江杭州.

Highlight

Journal

2021

1. Wang, L., Wu, Z., Yang, J., Chen, L., & Chen, R. (2021). Performance of the non-iterative ToA-based positioning algorithms in complex indoor environments. Arabian Journal of Geosciences, 14(8). doi:10.1007/s12517-021-06996-6
2. Lu, X., Chen, L., Shen, N., Wang, L., Jiao, Z., & Chen, R. (2021). Decoding PPP Corrections From BDS B2b Signals Using a Software-Defined Receiver: An Initial Performance Evaluation. IEEE Sensors Journal, 21(6), 7871-7883. doi:10.1109/JSEN.2020.3041486
3. Nan, S., Chen, L., Wang, L., Hu, H., Lu, X., Qian, C., . . . Chen, R. (2021). Short-Term Landslide Displacement Detection Based on GNSS Real-Time Kinematic Positioning. IEEE Transactions on Instrumentation and Measurement, PP, 1-1. doi:10.1109/TIM.2021.3055278
4. Shen, N., Chen, L., Lu, X., Hu, H., Pan, Y., Gao, Z., . . . Chen, R. (2021). Online displacement extraction and vibration detection based on interactive multiple model algorithm. Mechanical Systems and Signal Processing, 155, 107581. doi:https://doi.org/10.1016/j.ymssp.2020.107581
5. Yu, Y., Chen, R., Chen, L., Li, W., Wu, Y., & Zhou, H. (2021). Autonomous 3D Indoor Localization Based on Crowdsourced Wi-Fi Fingerprinting And MEMS Sensors. IEEE Sensors Journal, 1-1. doi:10.1109/JSEN.2021.3065951
6. Yu, Y., Chen, R., Chen, L., Zheng, X., Wu, D., Li, W., & Wu, Y. (2021). A Novel 3D Indoor Localization Algorithm Based on BLE and Multiple Sensors. IEEE Internet of Things Journal, 1-1. doi:10.1109/JIOT.2021.3055794

2020

7. Shen, N., Chen, L., Wang, L., Lu, X. C., Tao, T. Y., Yan, J., & Chen, R. Z. (2020). Site-specific real-time GPS multipath mitigation based on coordinate time series window matching. GPS Solutions, 24(3). doi:10.1007/s10291-020-00994-z
8. Wang, Y., Chen, L., Wei, P., & Lu, X. (2020). Visual-Inertial Odometry of Smartphone under Manhattan World. Remote Sensing, 12(22), 3818. Retrieved from https://www.mdpi.com/2072-4292/12/22/3818
9. Wang, Y., Guo, R., Wang, W., Li, X., Tang, S., Zhang, W., . . . Xiu, W. (2020). Near Relation-Based Indoor Positioning Method under Sparse Wi-Fi Fingerprints. ISPRS International Journal of Geo-Information, 9, 714. doi:10.3390/ijgi9120714
10. Yan, J., Cao, Y. M., Kang, B., Wu, X. H., & Chen, L. (2021). An ELM-Based Semi-Supervised Indoor Localization Technique With Clustering Analysis and Feature Extraction. IEEE Sensors Journal, 21(3), 3635-3644. doi:10.1109/jsen.2020.3028579
11. Yu, Y., Chen, R., Chen, L., Xu, S., Li, W., Wu, Y., & Zhou, H. (2020). Precise 3-D Indoor Localization

Based on Wi-Fi FTM and Built-In Sensors. IEEE Internet of Things Journal, 7(12), 11753-11765. doi:10.1109/JIOT.2020.2999626

12. Yu, Y., Chen, R., Liu, Z., Guo, G., Ye, F., & Chen, L. (2020). Wi-Fi Fine Time Measurement: Data Analysis and Processing for Indoor Localisation. Journal of Navigation, 73(5), 1-23. doi:10.1017/S0373463320000193
13. Zhou, X., Chen, L., Yan, J., & Chen, R. Z. (2020). Accurate DOA Estimation With Adjacent Angle Power Difference for Indoor Localization. IEEE Access, 8, 44702-44713. doi:10.1109/access.2020.2977371

2019

14. Cao, Z. P., Cheng, Y. F., Chen, R. Z., Guo, G. Y., Ye, F., Chen, L., & Pan, Y. J. (2019). An infant monitoring system with the support of accurate real-time indoor positioning. Geo-spatial Information Science, 22(4), 279-289. doi:10.1080/10095020.2019.1631617
15. Guo, G. Y., Chen, R. Z., Ye, F., Chen, L., Pan, Y. J., Liu, M. Y., & Cao, Z. P. (2019). A Pose Awareness Solution for Estimating Pedestrian Walking Speed. Remote Sensing, 11(1). doi:10.3390/rs11010055
16. Pan, Y., Chen, R., Yi, S., Wang, W., Ding, H., Shen, W., & Chen, L. (2019). Contemporary Mountain‐Building of the Tianshan and its Relevance to Geodynamics Constrained by Integrating GPS and GRACE Measurements. *Journal of Geophysical Research: Solid Earth, 124*(11).
17. Shen, N., Chen, L., Liu, J. B., Wang, L., Tao, T. Y., Wu, D. W., & Chen, R. Z. (2019). A Review of Global Navigation Satellite System (GNSS)-Based Dynamic Monitoring Technologies for Structural Health Monitoring. Remote Sensing, 11(9). doi:10.3390/rs11091001
18. Yan, J., Zhu, B. C., Chen, L., Wang, J., & Liu, J. B. (2019). Error Analysis on Indoor Localization with Visible Light Communication. Remote Sensing, 11(4). doi:10.3390/rs11040427
19. Yu, Y., Chen, R. Z., Chen, L., Guo, G. Y., Ye, F., & Liu, Z. Y. (2019). A Robust Dead Reckoning Algorithm Based on Wi-Fi FTM and Multiple Sensors. Remote Sensing, 11(5). doi:10.3390/rs11050504

2018

20. Chen, L., Julien, O., Lohan, E. S., Seco-Granados, G., & Chen, R. Z. (2018). Mobile Geospatial Computing Systems for Ubiquitous Positioning. Mobile Information Systems, 2018. doi:10.1155/2018/9138095
21. Liang, X., Hyyppä, J., Kaartinen, H., Lehtomäki, M., Pyörälä, J., Pfeifer, N., . . . Wang, Y. (2018). International benchmarking of terrestrial laser scanning approaches for forest inventories. *ISPRS* Journal of Photogrammetry and Remote Sensing, 144, 137-179. doi:https://doi.org/10.1016/j.isprsjprs.2018.06.021
22. Yan, J., Zhao, L., Tang, J., Chen, Y. W., Chen, R. Z., & Chen, L. (2018). Hybrid Kernel Based Machine Learning Using Received Signal Strength Measurements for Indoor Localization. IEEE Transactions on Vehicular Technology, 67(3), 2824-2829. doi:10.1109/tvt.2017.2774103

2017

23. Chen, L., Thombre, S., Järvinen, K., Lohan, E. S., Alén-Savikko, A., Leppäkoski, H., . . . Kuusniemi, H.

(2017). Robustness, Security and Privacy in Location-Based Services for Future IoT: A Survey. *IEEE Access, 5*, 8956-8977. doi:10.1109/ACCESS.2017.2695525

24. Chen, L., Yang, L. L., Yan, J., & Chen, R. Z. (2017). Joint Wireless Positioning and Emitter Identification in DVB-T Single Frequency Networks. IEEE Transactions on Broadcasting, 63(3), 577-582. doi:10.1109/tbc.2017.2704422
25. Qian, C., Liu, H., Tang, J., Chen, Y., Kaartinen, H., Kukko, A., . . . Hyyppä, J. (2017). An Integrated GNSS/INS/LiDAR-SLAM Positioning Method for Highly Accurate Forest Stem Mapping. Remote Sensing, 9(1), 3. Retrieved from https://www.mdpi.com/2072-4292/9/1/3
26. Wu, D. W., Chen, R. Z., & Chen, L. (2017). Visual Positioning Indoors: Human Eyes vs. Smartphone Cameras. Sensors, 17(11). doi:10.3390/s17112645
27. Yan, J., Yu, K. G., Cao, Y. Q., & Chen, L. (2017). Attack-Resistant Received Signal Strength based Compressive Sensing Wireless Localization. KSII Transactions on Internet and Information Systems, 11(9), 4418-4437. doi:10.3837/tiis.2017.09.013
28. Yan, J., Yu, K. G., Chen, R. Z., & Chen, L. (2017). An Improved Compressive Sensing and Received Signal Strength-Based Target Localization Algorithm with Unknown Target Population for Wireless Local Area Networks. Sensors, 17(6). doi:10.3390/s17061246

2016

29. Chen, L., Thevenon, P., Seco-Granados, G., Julien, O., & Kuusniemi, H. (2016). Analysis on the TOA Tracking With DVB-T Signals for Positioning. *IEEE Transactions on Broadcasting, 62*(4), 957-961. doi:10.1109/TBC.2016.2606939

2015

30. Chen, L., Julien, O., Thevenon, P., Serant, D., Peña, A. G., & Kuusniemi, H. (2015). TOA Estimation for Positioning With DVB-T Signals in Outdoor Static Tests. *IEEE Transactions on Broadcasting, 61*(4), 625-638. doi:10.1109/TBC.2015.2465155

Book

1. Liang, C. (2016-05-23). *基于 OFDM 数字广播信号的无线定位关键技术研究*: Golden Light Academic Publishing.

Book Chapter

1. Liang, C., Heidi, K., Yuwei, C., Ling, P., Jingbin, L., Jian, T., . . . Ruizhi, C. (2014). Information Filter-Assisted Indoor Bluetooth Positioning. In V. Seppo (Ed.), *Advancing Embedded Systems and Real-Time Communications with Emerging Technologies* (pp. 162-177). Hershey, PA, USA: IGI Global.
2. Chen, L., Ali-Löytty, S., Piché, R., & Wu, L. (2012). Mobile Tracking in Mixed Line-of-Sight/Non-Line-of-Sight Conditions: Algorithm and Theoretical Lower Bound. *Wireless Personal Communications, 65*(4), 753-771. doi:10.1007/s11277-011-0294-7
3. Kuusniemi, H., Chen, Y., & Chen, L. (2012). Multi-Sensor Multi-Network Positioning. *Ubiquitous Positioning and Mobile Location-Based Services in Smart Phones*, 97-129. doi:10.4018/978-1-

4666-1827-5.ch005

4. Lohan, E. S., Alén-Savikko, A., Chen, L., Järvinen, K., Leppäkoski, H., Kuusniemi, H., & Korpisaari, P. (2018). *A Comprehensive Guide to 5G Security ， 5G positioning: security and privacy aspects*. 281-320, doi: 10.1002/9781119293071.ch13
5. Ruizhi Chen, L. C. Smartphone-Based Indoor Positioning Technologies. In W. Shi, Goodchild, M., Batty, M., Kwan, M.-P., Zhang, A. (Ed.): Urban Informatics.

Award

1. 陈锐志, & 陈亮. (2017). 基于智能手机的室内定位技术的发展现状和挑战. *测绘学报, 046*(010), 1316-1326. doi: 10.11947（领跑者 5000 优秀论文 **F5000 Excellent Papers**）

Patent

1. 陈亮、梁劲松、周鑫、陈锐志；一种基于发射角估计的音频定位方法，2021-12-17，中国发明专利，CN 113099405B
2. 柳景斌、陈锐志、李德仁、陈亮、王磊、刘树纶；一种低轨卫星导航增强电离层延迟改正参数方法，2020-04-17，中国发明专利，CN 107390233B
3. 陈亮，陈锐志，柳景斌；一种多载波数字广播信号载波平滑高精度时延估计方法，2017-6-19，中国发明专利，CN 107302514B
4. 王磊、陈锐志、陈亮、申丽丽；GNSS 接收机阵列及基于 GNSS 接收机阵列的高精度变形监测方法，2020-05-12，中国发明专利，CN 108613621B
5. 王磊、陈锐志、李德仁、潘元进、李明、陈亮、柳景斌；一种基于低轨卫星的星地差分实时精密定位方法，2019-09-03，中国发明专利，CN 107229061B
6. 陈锐志、郭光毅、曹志鹏、王磊、潘元进、李明、陈亮、叶峰、刘梦云；基于单个或多个蓝牙发射单元的微星基站定位系统及方法，2020-05-05，中国发明专利，CN 107315166B
7. Liu Jingbin, Chen Ruizhi, Li Deren, Chen Liang, Wang Lei, Liu Shulun；An ionospheric delay correction method for augmented LEO satellitenavigation systems，2017 年 7 月 18 日，美国发明专利，2017105871021
8. 陈亮，周鑫，陈锐志；智能天线获取无线信号到达角的识别和定位方法及系统，2019-10-28，中国发明专利，CN 2019 1 1030243.9
9. 陈亮，沈楠，陈锐志；加速度计的振动探测与位移提取的交互多模型检测方法，2020-03-17，中国发明专利，CN110887652A
10. 陈亮，沈楠，陈锐志；基于 GNSS 动态定位时间序列分割的短期位移探测方法，2020-09-24，中国发明专利，CN 202011017143.5
11. 陈亮，周鑫，陈锐志；5G 下行信号的无线定位方法、系统、介质及智能终端，2020-11-16，中国发明专利，CN 2020 1 1280529.5

Project

1. 陈亮，5G 商用信号室内定位研究，华为 2012 实验室，2020–2021，主持；项目总经费：

50 万元

2. 国家重点研发计划项目资助 “新型城镇化建设与管理空间信息综合服务及应用示范”,(项目编号：2018YFB0505400)，2018-2022，项目总经费：2000 万元 （国拨：800 万），子课题负责人，子课题名称：低成本高精度的北斗与高频加速度计耦合城镇建筑物动态监测技术 经费 100 万
3. 杨必胜，陈亮，涂志刚，撰写《测绘遥感信息工程国家重点实验室自主研究》课题申请书；
4. 国家重点研发计划项目（战略性国际科技创新合作重点专项）：北斗兼容格拉纳斯和 GPS 等卫星导航系统在斯里兰卡的联合应用开发与示范（项目编号 2016YFE0202300）。项目总经费：1600 万元 （国拨：600 万），子课题负责人，子课题名称：城市中心区域多星座高精度定位误消除方法，经费 40 万（原为 10 万）。
5. 国家十三五重大研发计划项目：高可用高精度室内智能混合定位与室内 GIS 技术（项目编号 2016YFB0502200）。项目总经费：8170 万元 （国拨：5670 万）。陈锐志主持，柳景斌参与
6. 湖北省创新团队: 环境感知增强高精度室内智能导航定位新机理研究， 参与
7. 芬兰科学院自然科学基金，“Wireless Positioning in The Next Generation DTV Networks”，2011-2014,经费：27.5 万欧元。主持
8. 华为中央软件院黎曼实验室合作课题：大规模可复制多源融合室内导航实时定位研究。2019-2020，主持。
9. 湖北省自然科学基金计划创新群体项目“智能环境感知增强高精度室内导航定位新机理”，项目号：2018CFA007