CURRICULUM VITAE

Dr. Raman Sankar
Assistant Research Scientist
Institute of Physics, Academia Sinica, Taipei 11529, Taiwan
Email: sankarndf@gmail.com
ramansankar@phys.sinica.edu.tw

Postdoctoral Position

1. Research Scientist at Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan (2011-2014) – Specialize in Topological insulator and Thermoelectric single crystal.

2. Postdoctoral Research Fellow at Centre for Condensed Matter Sciences, National Taiwan University Taipei, Taiwan (2009 - 2011) - Specialize in Antiferromagnetic, thermo power and Topological insulator single crystal

3. Postdoctoral Research Fellow at Crystal growth Centre, Anna University, India under Dr. KOTHARI POSTDOTROAL POSITION (Jan 2008 – Aug 2009) – Specialize in Nonlinear optical single crystals

Research Interest

Quantum matter, Quantum many-body physics, Fundamental condensed matter physics: Strongly correlated electrons, Topological phases of quantum matter, Quantum magnetism, Superconductivity, ARPES, Spin-ARPES, TR-ARPES, Resonant and Inelastic X-ray scattering, Advanced X-ray spectroscopy, X-ray free electron Lasers, Ultrafast physics, Crystal Growth techniques (Optical/IR Furnace, Bridgeman).

Reviewer: Physical Review Journal, Advanced Optical Materials, American Chemical Society, Nano letters, Journal of Crystal Growth and etc.,

Educational qualifications

DOCTOR OF PHILOSOPHY (Ph.D.,) (2004-2008)
Thesis titled “Growth and Characterization of organo metallic Nonlinear Optical Single Crystals"
Institution: Crystal Growth Centre, Anna University, Chennai-600 025, India
MASTER OF SCIENCE (M.Sc.,)
Institution : Department of Physics, Thiyagarajar College of engineering, Madurai Kamaraj University
Year : 2001-2003
Subject : Materials Science and Technology (First Class -89%)

MASTER OF DIPLOMOMA (P.G.D.C.A)
Institution : The American College, Madurai Kamaraj University
Year : 2000-2001
Subject : Computer (86 %First Class with Distinction)

BACHELOR OF SCIENCE (B.Sc.,)
Institution : The American College, Madurai Kamaraj University
Year : 1997-2000
Subject : Chemistry (First Class with Distinction 80%)

Research experience : 15 years
Number of papers published : 227

- **Best paper award**
  - “International Conference on Spectrophysics” organized by Pachaiyappa’s College, Chennai, India
  - “Tenth National Seminar on Crystal Growth” organized by Kongu Engineering College, Erode, India during JAN 27-29, 2005.

- **Fellowship**
  Award of AICTE - National Doctoral Fellowship (NDF)- 4 years (2004-2008)
1. Anisotropic Magnetic Properties of Nonsymmorphic Semimetallic Single Crystal NdSbTe, 
   Raman Sankar*, I Panneer Muthuselvam, Karthik Rajagopal, K Ramesh Babu, G Senthil Murugan, Khasim Saheb Bayikadi, K Moovendaran, Chien Ting Wu, Guang-Yu Guo, Cryst. Growth Des. 2020, doi.org/10.1021/acs.cgd.0c00756.

2. Fully gapped superconductivity without sign reversal in the topological superconductor PbTaSe$_2$.
   Yue Sun, Shunichiro Kittaka, Toshiro Sakakibara, Kazushige Machida, R. Sankar, Xiaofeng Xu, Nan Zhou, Xiangzhuo Xing, Zhixiang Shi, Sunseng Pyon, and Tsuyoshi Tamegai Phys. Rev. B (2020)102, 024517

3. Superposition of semiconductor and semi-metal properties of self-assembled 2D SnTiS$_3$ heterostructures
   Srinivasa Reddy Tamalampudi, Jin-You Lu, Nitul Rajput, Chia-Yun Lai, Boulou Alfares, Raman Sankar, Harry Apostoleris, Shashikant P Patole, Ibraheem Almansouri, Matteo Chiesa, npj 2D Materials and Applications 4(1), (2020) 18.

4. Carbon-supported cobalt (III) complex for direct reduction of oxygen in alkaline medium.
   Anjaiah Sheelam, Raman Sankar*, International Journal of Hydrogen Energy, 45 (2020), 24738-24748.

5. Highly improved thermoelectric performance of BiCuTeO achieved by decreasing the oxygen content.
   Hui-Ching Chang, Ting-Hsuan Chen, Raman Sankar, Ying-Jay Yang, Li-Chyong Chen, Kuei-Hsien Chen, Materials Today Physics 15 (2020) 1002482.

6. Nickel-based Hybrid Material for Electrochemical Oxygen Redox Reactions in Alkaline Medium,
   Prabu Mani, Anjaiah Sheelam, Pitchiah E Karthik, Raman Sankar, Kothandaraman Ramanujam, Sukhendu Mandal, ACS Appl. Energy Mater. 2020, 3, 7, 6408–6415.

7. Flexible and free-standing polyvinyl alcohol-reduced graphene oxide-Cu 2 O/CuO thin films for electrochemical reduction of carbon dioxide,
   Anjaiah Sheelam, Adil Muneeb, Biva Talukdar, Rini Ravindranath, Song-Jeng Huang, Chun-Hong Kuo, Raman Sankar*, Journal of Applied Electrochemistry 50 (9), (2020) 979-991.
8. **Magnetic and orbital correlations in multiferroic CaMn$_7$O$_{12}$ probed by x-ray resonant elastic scattering.**
K Gautam, SS Majid, S Francoual, A Ahad, K Dey, MC Rahn, R Sankar, FC Chou, DK Shukla, *Phys. Rev. B* 101, (2020) 224430.

9. **Femtosecond time-evolution of mid-infrared spectral line shapes of Dirac fermions in topological insulators,**
Tien-Tien Yeh, Chien-Ming Tu, Wen-Hao Lin, Cheng-Maw Cheng, Wen-Yen Tzeng, Chen-Yu Chang, Hideto Shirai, Takao Fuji, Raman Sankar, Fang-Cheng Chou, Marin M Gospodinov, Takayoshi Kobayashi, Chih-Wei Luo, *Scientific Reports* volume 10, (2020) 9803.

10. **Synergistic optimization of thermoelectric performance in earth-abundant Cu$_2$ZnSnS$_4$ by inclusion of graphene nanosheets.**
Sarita Sharma, Khasimsaheb Bayikadi, Raman Sankar, Sonnathi Neeleshwar, doi.org/10.1088/1361-6528/ab9393, *IOP Nanotechnology* 31 (2020) 365402.

11. **Modulating charge separation with h-BN mediation in vertical van der Waals heterostructures.**
Christy Roshini Paul Inbaraj, Roshan Jesus Mathew, Rajesh Kumar Ulaganathan, Raman Sankar, Monika Kataria, Hsia Yu Lin, Hao-Yu Cheng, Kung-Hsuan Lin, Hung-I Lin, Yu-Ming Liao, Fang-Cheng Chou, Yit-Tsong Chen, Chih-Hao Lee, Yang-Fang Chen, *ACS Appl. Mater. Interfaces* 2020, 12, 26213−26221.

12. **Electron-Electron Interactions in 2D Semiconductor InSe.**
Shankar Kumar Arvind; Premasiri Kasun; Gao Min; Kumar U. Rajesh; Sankar Raman; Chou Fang-Cheng; Gao Xuan P. A. *Phys. Rev. B* 102 (12), 121301.

13. **Ultralow Schottky Barriers in Hexagonal Boron Nitride-Encapsulated Monolayer WSe$_2$ Tunnel Field-Effect Transistors.**
Gaurav Pande, Jyun-Yan Siao, Wei-Liang Chen, Chien-Ju Lee, Raman Sankar, Yu-Ming Chang, Chii-Dong Chen, Wen-Hao Chang, Fang-Cheng Chou and Minn-Tsong Lin, *ACS Appl. Mater. Interfaces* 2020, 12, 16, 18667–18673.

14. **Field-free platform for Majorana-like zero mode in superconductors with a topological surface state.**
Songtian S. Zhang, Jia-Xin Yin, Guangyang Dai, Lingxiao Zhao, Tay-Rong Chang, Nana Shumiya, Kun Jiang, Hao Zheng, Guang Bian, Daniel Multer, Maksim Litskevich, Guoqing Chang, Ilya Belopolski, Tyler A. Cochran, Xianxin Wu, Desheng Wu, Jianlin Luo, Genfu Chen, Hsin Lin, Fang-Cheng Chou, Xiancheng Wang, Changqing Jin, Raman Sankar, Ziqiang Wang, and M. Zahid Hasan, *Phys. Rev. B* 101, 100507(R)
15. Selenium nanoparticle prepared by femtosecond laser-induced plasma shock wave.
   Wen-Yen Tzeng, Ya-Hsin Tseng, Tien-Tien Yeh, Chien-Ming Tu, Raman Sankar, Yu-Han Chen, Bang-Hao Huang, Fang-Cheng Chou, Chih-Wei Luo, Optics Express 28 (1), 685-694.

16. Evidence for nematic superconductivity of topological surface states in PbTaSe2.
   Tian Le, Yue Sun, Hui-Ke Jin, Liqiang Che, Lichang Yin, Guiming Pang, Chunqiang Xu, Lingxiao Zhao, Shunichiro Kittaka, Toshiro Sakakibara, Kazushige Machida, Raman Sankar, Huiqiu Yuan, Genfu Chen, Xiaofeng Xu, Shiyan Li, Yi Zhou, Xin Lu, Science Bulletin 65 (16), 1349-1355.

17. Synergistic optimization of thermoelectric performance of Sb doped GeTe with a strained domain and domain boundaries.
   Khasim Saheb Bayikadi, Chien Ting Wu, Li-Chyong Chen, Kuei-Hsien Chen, Fang-Cheng Chou and Raman Sankar*, J. Mater. Chem. A, 2020, 8, 5332-5341.

18. Electrosynthesis of carbon aerogel-modified AuNPs@ quercetin via an environmentally benign method for hydrazine (HZ) and hydroxylamine (HA) detection.
   Chellakannu Rajkumar, Raja Nehru, Shen-Ming Chen, Haekyoung Kim, S. Arumugame and Raman Sankar. New J. Chem., 2020, 44, 586.

(2019)

19. Oxidized-monolayer tunneling barrier for strong Fermi-level depinning in layered InSe transistors.
   Yi-Hsun Chen, Chih-Yi Cheng, Shao-Yu Chen, Jan Sebastian Dominic Rodriguez, Han-Ting Liao, Kenji Watanabe, Takashi Taniguchi, Chun-Wei Chen, Raman Sankar, Fang-Cheng Chou, Hsiang-Chih Chiu & Wei-Hua Wang. npj 2D Materials and Applications 3 (1), (2019) 1-7.

20. High-Performance Flexible Broadband Photodetectors Based on 2D Hafnium Selenosulfide Nanosheets.
   Rajesh Kumar Ulaganathan, Raman Sankar, Chang-Yu Lin, Raghavan Chinnambedu Murugesan, Kechao Tang, Fang-Cheng Chou. Adv. Electron. Mater. (2019) 1900794.
21. **Two-gap superconductivity and topological surface states in TaOsSi.**
C. Q. Xu, B. Li, J. J. Feng, W. H. Jiao, Y. K. Li, S. W. Liu, Y. X. Zhou, **R. Sankar**, Nikolai D. Zhigadlo, H. B. Wang, Z. D. Han, B. Qian, W. Ye, W. Zhou, T. Shiroka, Pabitra K. Biswas, Xiaofeng Xu, and Z. X. Shi. *Phys. Rev. B* 100 (2019) 134503.

22. **Possible manifestations of the chiral anomaly and evidence for a magnetic field induced topological phase transition in the type-I Weyl semimetal TaAs.**
QR Zhang, B Zeng, YC Chiu, R Schönemann, S Memaran, W Zheng, D Rhodes, K-W Chen, T Besara, **R Sankar**, F Chou, GT McCandless, JY Chan, N Alidoust, S-Y Xu, I Belopolski, MZ Hasan, FF Balakirev, L Balicas. *Phys. Rev. B* 100 (2019) 115138.

23. **Crystal growth and magnetic properties of topological nodal-line semimetal GdSbTe with Antiferromagnetic spin ordering.**
Raman Sankar, I Panneer Muthuselvam, K Ramesh Babu, G Senthil Murugan, Karthik Rajagopal, Rakesh Kumar, Tsung-Chi Wu, Cheng-Yen Wen, Wei-Li Lee, Guang-Yu Guo, Fang-Cheng Chou. *Inorg. Chem.* 58 (2019) 11730-11737.

24. **Heavy Mediator at Quantum Dot/Graphene Heterojunction for Efficient Charge Carrier Transfer: Alternative Approach for High-Performance Optoelectronic Devices.**
Rapti Ghosh, Kanchan Yadav, Monika Kataria, Hung-I Lin, Christy Roshini Paul Inbaraj, Yu-Ming Liao, Yen Nguyen, Cheng-Hsin Lu, Mario Hofmann, **Raman Sankar**, Wei-Heng Shih, Ya-Ping Hsieh, Yang-Fang Chen. *ACS Appl. Mater. Interfaces* 11 (2019) 26518-26527.

25. **Sn-Doping Enhanced Ultrahigh Mobility In1-xSnxSe Phototransistor.**
CR Inbaraj Paul, Vijay Kumar Gudelli, Roshan Jesus Mathew, Rajesh Kumar Ulaganathan, **Raman Sankar**, Hsia Yu Lin, Hung-I Lin, Yu-Ming Liao, Hao-Yu Cheng, Kung-Hsuan Lin, Fang Cheng Chou, Yit-Tsong Chen, Chih-Hao Lee, Guang-Yu Guo, Yang-Fang Chen. *ACS Appl. Mater. Interfaces* 11 (2019) 24269-24278.

26. **A chitosan grafted mesoporous carbon aerogel for ultra-sensitive voltammetric determination of isoniazid.**
Chellakannu Rajkumar, Raja Nehru, Shen-Ming Chen, S Arumugam, **Raman Sankar**. *Microchim Acta* 186 (2019) 419.

27. **Thickness-Dependent Resonant Raman and E' Photoluminescence Spectra of Indium Selenide and Indium Selenide/Graphene Heterostructures.**
Srinivasa Reddy Tamalampudi, **Raman Sankar**, Harry Apostoleris, Mariam Ali AlMahri, Boulos Alfakes, Abdulrahman Al-Hagri, Ru Li, Adel Gougam, Ibraheem Almansouri, Matteo Chiesa, Jinyou Lu. *J. Phys. Chem. C* 123 (2019) 15345-15353.
28. Surface Instability and Chemical Reactivity of ZrSiS and ZrSiSe Nodal-Line Semimetals.
   Danil W Boukhvalov, Raju Edla, Anna Cupolillo, Vito Fabio, Raman Sankar, Yanglin Zhu, Zhiqiang Mao, Jin Hu, Piero Torelli, Gennaro Chiarello, Luca Ottaviano, Antonio Politano. Adv. Funct. Mater. 29 (2019) 1900438.

29. Enhanced thermoelectric performance of BiCuTeO by excess Bi additions.
   Hui-Ching Chang, Hao-Jen You, Raman Sankar, Ying-Jay Yang, Li-Chyong Chen, Kuei-Hsien Chen. Ceram Int. 45 (2019) 9254-9259.

30. Gd$_2$Te$_3$: an antiferromagnetic semimetal.
   I Panneer Muthuselvam, Raja Nehru, K Ramesh Babu, K Saranya, SN Kaul, Shen-Ming Chen, Wei-Tin Chen, Yanwen Liu, Guang-Yu Guo, Faxian Xiu, R Sankar. J. Phys.: Condens. Matter 31 (2019) 285802.

31. Topological nature of step-edge states on the surface of the topological crystalline insulator Pb$_{0.7}$Sn$_{0.3}$Se.
   Davide Iaia, Chang-Yan Wang, Yulia Maximenko, Daniel Walkup, R Sankar, Fangcheng Chou, Yuan-Ming Lu, Vidya Madhavan. Phys. Rev. B 99 (2019) 155116.

32. Photodriven Dipole Reordering: Key to Carrier Separation in Metalorganic Halide Perovskites.
   Hung-Chang Hsu, Bo-Chao Huang, Shu-Cheng Chin, Cheng-Rong Hsing, Duc-Long Nguyen, Michael Schnedler, Raman Sankar, Rafal E Dunin-Borkowski, Ching-Ming Wei, Chun-Wei Chen, Philipp Ebert, Ya-Ping Chiu. ACS Nano 13 (2019) 4402-4409.

33. High Temperature Defect-Induced Hopping Conduction in Multi-Layered Germanium Sulfide for Optoelectronics Applications in Harsh Environments.
   Srinivasa Reddy Tamalampudi, Shashikant Patole, Boulos Alfakes, Raman Sankar, Ibraheem Almansouri, Matteo Chiesa, Jin-You Lu. ACS Appl. Nano Mater. 2 (2019) 2169-2175.

34. Contrasting the Surface Phonon Dispersion of Pb0.7Sn0.3Se in Its Topologically Trivial and Nontrivial Phases.
   S. Kalish, C. Chamon, M. El-Batanouny, L. H. Santos, R. Sankar, and F. C. Chou. Phys. Rev. Lett. 122 (2019) 116101.

35. Sonochemical driven simple preparation of nitrogen-doped carbon quantum dots/SnO2 nanocomposite: A novel electrocatalyst for sensitive voltammetric determination of riboflavin.
   Ganesan Muthusankar, Chellakannu Rajkumar, Shen-Ming Chen, Rajendran Karkuzhali, Gopalakrishnan Gopu, Arumugam Sangili, Nallathambi Sengottuvelan. Raman Sankar. Sens Actuators B Chem. 281 (2019) 602-612.
36. Extreme magnetoresistance and pressure-induced superconductivity in the topological semimetal candidate YBi.
C. Q. Xu, B. Li, M. R. van Delft, W. H. Jiao, W. Zhou, B. Qian, Nikolai D. Zhigadlo, Dong Qian, R. Sankar, N. E. Hussey, and Xiaofeng Xu. *Phys. Rev. B* 99 (2019) 024110.

37. Optical signatures of Dirac nodal lines in NbAS2.
Yinming Shao, Zhiyuan Sun, Ying Wang, Chenchao Xu, Raman Sankar, Alexander J Breindel, Chao Cao, Michael M Fogler, Andrew J Millis, Fangcheng Chou, Zhiqiang Li, Thomas Timusk, M Brian Maple, DN Basov. *Proc. Natl. Acad. Sci. U.S.A.* 116 (2019) 1168-1173.

38. High unsaturated room-temperature magnetoresistance in phase-engineered Mo,xW1-xTe2+.
Roshan Jesus Mathew, Christy Roshini Paul Inbaraj, Raman Sankar, Shemsia Mohammed Hudie, Revannath Dnyandeo Nikam, Chi-Ang Tseng, Chih-Hao Lee, Yit-Tsong Chen. *J. Mater. Chem. C* 7 (2019) 10996-11004.

39. Enhanced thermoelectric performance of GeTe through in situ microdomain and Ge-vacancy control.
Khasim Saheb Bayikadi, Raman Sankar, Chien Ting Wu, Chengliang Xia, Yue Chen, Li-Chyong Chen, Kuei-Hsien Chen and Fang-Cheng Chou. *J. Mater. Chem. A* 7 (2019) 15181-15189.

40. Surface Reconstruction, Oxidation Mechanism, and Stability of Cd3As2.
Junfeng Gao, Anna Cupolillo, Silvia Nappini, Federica Bondino, Raju Edla, Vito Fabio, Raman Sankar, Yong-Wei Zhang, Gennaro Chiarello, Antonio Politano. *Adv. Funt. Mater.* (2019) 1900965.

41. Enhanced Thermoelectric Performance via Oxygen Manipulation in BiCuTeO.
Hui-Ching Chang, Hao-Jen You, Raman Sankar, Ying-Jay Yang, Li-Chyong Chen, Kuei-Hsien Chen. *MRS Adv. 4* (2019) 499-505.

42. Electrochemical sensing of free radical antioxidant diphenylamine cations (DPAH˙+) with carbon interlaced nanoflake-assembled Mg x Ni 9– x S 8 microspheres.
Raja Nehru, Raghavan Chinnambedu Murugesan, Shen-Ming Chen, Raman Sankar. *Cryst Eng Comm.* 21 (2019) 724-735.

43. Hybrid InSe Nanosheets and MoS2 Quantum Dots for High-Performance Broadband Photodetectors and Photovoltaic Cells.
Rajesh Kumar Ulaganathan, Kanchan Yadav, Raman Sankar, Fang Cheng Chou, Yit-Tsong Chen. *Adv. Mater. Interfaces* 6 (2019) 1801336.
44. Superconductivity in a misfit layered (SnS)$_{1.15}$(TaS$_2$) compound., Raman Sankar, G Peramaiyan, I Panneer Muthuselvam, Cheng-Yen Wen, Xiaofeng Xu, FC Chou, *Chemistry of Materials.*, 30 (2018), 1373-1378.

45. Atomic-scale strain manipulation of a charge density wave, Shang Gao, Felix Flicker, Raman Sankar, He Zhao, Zheng Ren, Bryan Rachmilowitz, Sidhika Balachandar, Fangcheng Chou, Kenneth S Burch, Ziqiang Wang, Jasper Van Wezel, Ilija Zeljkovic *PNAS* (2018) 6986–6990.

46. Surface termination dependent quasiparticle scattering interference and magneto-transport study on ZrSiS, Chih-Chuan Su, Chi-Sheng Li, Tzu-Cheng Wang, Syu-You Guan, Raman Sankar, Fang-Cheng Chou, Chia-Seng Chang, Wei-Li Lee, Guang-Yu Guo, Tien-Ming Chuang *New J. Phys* (2018)

47. 3D Dirac semimetal Cd$_3$As$_2$: a review of material properties I Crassee, R Sankar, W-L Lee, A Akrap, M Orlita *Physical Review B* 97 (2018), 195134

48. Distinct multiple fermionic states in a single topological metal M Mofazzel Hosen, Klauss Dimitri, Ashis K Nandy, Alex Aperis, Raman Sankar, Gyanendra Dhakal, Pablo Maldonado, Firoza Kabir, Christopher Sims, Fangcheng Chou, Dariusz Kaczorowski, Tomasz Durakiewicz, Peter M Oppeneer, Madhab Neupane *Nature Communications* (2018) 9, 3002

49. Low-Threshold Lasing from 2D Homologous Organic–Inorganic Hybrid Ruddlesden–Popper Perovskite Single Crystals Chinnambedu Murugesan Raghavan, Tzu-Pei Chen, Shao-Sian Li, Wei-Liang Chen, Chao-Yuan Lo, Yu-Ming Liao, Golam Haider, Cheng-Chieh Lin, Chia-Chun Chen, Raman Sankar, Yu-Ming Chang, Fang-Cheng Chou, Chun-Wei Chen *Nano letters* 18 (5), 3221-3228

50. Emergence of a Metal–Insulator Transition and High-Temperature Charge-Density Waves in VSe$_2$ at the Monolayer Limit Ganbat Duvjir, Byoung Ki Choi, Iksu Jang, Søren Ulstrup, Soomin Kang, Trinh Thi Ly, Sanghwa Kim, Young Hwan Choi, Chris Joziwiaik, Aaron Bostwick, Eli Rotenberg, Je-Geun Park, Raman Sankar, Ki-Seok Kim, Jungdae Kim, Young Jun Chang, *Nano Lett.*, 2018, 18 (9), 5432–5438

51. “Enhanced Light Emission from the Ridge of Two-dimensional InSe Flakes” Yang Li, Tianmeng Wang, Han Wang, Zhipeng Li, Yanwen Chen, Damien West, Raman Sankar, Rajesh K Ulaganathan, Fangcheng Chou, Christian Wetzel, Cheng-Yan Xu, Shengbai Zhang, Su-Fei Shi, *Nano letters* 18 (8), 5078-5084

52. High-performance InSe transistors with ohmic contact enabled by nonrectifying-barrier-type indium electrodes Yu-Ting Huang, Yi-Hsun Chen,
53. Interplay of orbital effects and nanoscale strain in topological crystalline insulators Daniel Walkup, Badih A Assaf, Kane L Scipioni, R Sankar, Fangcheng Chou, Guoqing Chang, Hsin Lin, Ilija Zeljkovic, Vidya Madhavan Nature communications 9 (2018) 1550.

54. Topological Type-II Dirac Fermions Approaching the Fermi Level in a Transition Metal Dichalcogenide NiTe$_2$ Chunqiang Xu, Bin Li, Wenhe Jiao, Wei Zhou, Bin Qian, Raman Sankar, Nikolai D Zhigadlo, Yanpeng Qi, Dong Qian, Fang-Cheng Chou, Xiaofeng Xu Chemistry of Materials, (2018).

55. Anisotropic magnetotransport and extremely large magnetoresistance in NbAs$_2$ single crystals G Peramaiyan, Raman Sankar, I Panneer Muthuselvam, Wei-Li Lee Scientific reports 8 (2018), 6414

56. Ultrasensitive tunability of the direct bandgap of two-dimensional InSe flakes via strain engineering. Yang Li, Tianmeng Wang, Meng Wu, Ting Cao, Yanwen Chen, Raman Sankar, Rajesh Kumar Ulaganathan, Fang-Cheng Chou, Christian Wetzel, Chengyan Xu, Steven G Louie, Sufei Shi., IOP 2D Mater. 5 (2018) 021002.

57. Evidence of s-wave superconductivity in the noncentrosymmetric La$_7$Ir$_3$. B Li, CQ Xu, W Zhou, WH Jiao, R Sankar, FM Zhang, HH Hou, XF Jiang, B Qian, B Chen, AF Bangura, Xiaofeng Xu., Scientific Reports. 8 (2018) 651.

58. Kondo behavior and metamagnetic phase transition in the heavy-fermion compound CeBi$_2$ W Zhou, CQ Xu, B Li, R Sankar, FM Zhang, B Qian, C Cao, JH Dai, Jianming Lu, WX Jiang, Dong Qian, Xiaofeng Xu Physical Review B 97 (19), 195120

59. Optical spectroscopy study on pressure-induced phase transitions in the threedimensional Dirac semimetal Cd$_3$As$_2$ E Uykur, R Sankar, D Schmitz, CA Kuntscher, Physical Review B 97 (2018), 195134

60. Reinvestigating the surface and bulk electronic properties of Cd$_3$ As$_2$ S Roth, H Lee, A Sterzi, M Zacchigna, A Politano, R Sankar, FC Chou, G Di Santo, L Petaccia, OV Yazyev, A Crepaldi Physical Review B 97 (2018), 165439

61. Energy scale of Dirac electrons in Cd$_3$As$_2$ M Hakl, S Tchoumakov, I Crassee, A Akrap, BA Piot, C Faugeras, G Martinez, A Nateprov, E Arushanov, Frederic Teppe, R Sankar, Wei-li Lee, J Debray, O Caha, J Novak, MO Goerbig, M Potemski, M Orłita, Physical Review B 97 (2018), 115206.
62. **Inducing Strong Superconductivity in WTe2 by Proximity Effect** Ce Huang, Awadhesh Narayan, Enze Zhang, Yanwen Liu, Xiao Yan, Jiaxiang Wang, Cheng Zhang, Weiyi Wang, Tong Zhou, Changjiang Yi, Shanshan Liu, Jiwei Ling, Huiqin Zhang, Ran Liu, Raman Sankar, Fang-Cheng Chou, Yihua Wang, Youguo Shi, Kam Tuen Law, Stefano Sanvito, Peng Zhou, Zheng Han, Faxian Xiu. *ACS Nano*, 12 (2018), 7185–7196.

63. **Tuning Rashba Spin-Orbit Coupling in Gated Multi-layer InSe** Kasun Premasiri, Santosh Kumar, Sukrit Sucharitakul, Rajesh Kumar Ulaganathan, Raman Sankar, Fang-Cheng Chou, Yit-Tsong Chen, Xuan PA Gao. *Nano Lett.* 18, (2018), 4403.

64. **Dynamic surface electronic reconstruction as symmetry-protected topological orders in topological insulator Bi2 Se3** GJ Shu, SC Liou, SK Karn, R Sankar, M Hayashi, FC Chou. *Physical Review Materials* 2 (4), (2018) 044201.

65. **Resistivity Anomaly in Weyl Semimetal candidate Molybdenum Telluride (MoTe2).** Dhavala Suri, Christopher Linderalv, Bogdan Karpiak, Linnea Anderson, Sandeep Kumar Singh, Andre Dankert, FC Chou, Raman Sankar, Paul Erhart, Saroj P Dash, RS Patel., *arXiv:1801.05162* (2018).

66. **Pressure-induced electronic and structural phase transitions in Dirac semimetal Cd3As2: Raman study** SN Gupta, DVS Muthu, C Shekhar, R Sankar, C Felser, AK Sood. *EPL (Europhysics Letters)* 120 (5), 57003.

67. **Ferromagnetic nature in low-dimensional S= 1 antiferromagnetic Li2Ni(WO4)2 nanoparticles.** IP Muthuselvam, R Sankar, GN Rao, SK Karn, FC Chou,. *Journal of Magnetism and Magnetic Materials.* 449 (2018) 83–87.

68. **Two-dimensional transport and strong spin–orbit interaction in SrMnSb2.** Jiwei Ling, Yanwen Liu, Zhao Jin, Sha Huang, Weiyi Wang, Cheng Zhang, Xiang Yuan, Shanshan Liu, Enze Zhang, Ce Huang, Raman Sankar, Fang-Cheng Chou, Zhengcai Xia, Faxian Xiu,. *Chinese Physics B.* 27 (2018) 017504.

69. **Influence of GeP precipitates on the thermoelectric properties of P-type GeTe and Ge0.9–P0.1Sb0.1Te compounds.** J Rajeev Gandhi, Raja Nehru, Sheng-Ming Chen, Raman Sankar, Khasim Saheb Bayikadi, Palanivel Sureshkumar, Kuei-Hsien Chen, Li-Chyong Chen. *CrystEngComm.* 20 (2018) 6449-6457.

70. **Crystal growth and transport properties of Weyl semimetal TaAs.** Raman Sankar, G. Peramaiyan, I. Panneer Muthuselvam, Suyang Xu, M. Zahid Hasan, and F. C. Chou. *Journal of Physics: Condensed Matter* 30, no. 1 (2017): 015803.

71. **Ultra-high performance flexible piezopotential gated In1−SnxSe phototransistor.**
Christy Roshini Paul Inbaraj, Roshan Jesus Mathew, Golam Haider, Tzu-Pei Chen, Rajesh Kumar Ulaganathan, Raman Sankar, Krishna Prasad Bera, Yu-Ming Liao, Monika Kataria, Hung-I Lin, Fang Cheng Chou, Yit-Tsong Chen, Chih-Hao Lee, Yang-Fang Chen. *Nanoscale*. 10 (2018) 18642-18650.

72. **Intrinsic Carrier Transport of Phase-Pure Homologous 2D Organolead Halide Hybrid Perovskite Single Crystals.**
Min-Ken Li, Tzu-Pei Chen, Yen-Fu Lin,* Chinnambedu Murugesan Raghavan, Wei-Liang Chen, Shih-Hsien Yang, Raman Sankar, Chih-Wei Luo, Yu-Ming Chang, and Chun-Wei Chen. *Small*. 14 (2018) 1803763 (2017)

73. **Surface oxidation doping to enhance photo generated carrier separation efficiency for ultrahigh gain indium selenide photodetector.** YR Chang, PH Ho, CY Wen, TP Chen, SS Li, JY Wang, MK Li, CA Tsai, Raman Sankar, Wei-Hua Wang, Po-Wen Chiu, Fang-Cheng Chou, and Chun-Wei Chen., *ACS Photonics*. 4 (2017) 2930-2936.

74. **Anomalous Acoustic Plasmon Mode from Topologically Protected States.**
Xun Jia, Shuyuan Zhang, Raman Sankar, Fang-Cheng Chou, Weihua Wang, K Kempa, EW Plummer, Jiandi Zhang, Xuetao Zhu, Jiandong Guo, *Physical Review Letter*. 119 (2017) 136805.

75. **Observation of ultrahigh mobility surface states in a topological crystalline insulator by infrared spectroscopy.** Y Wang, G Luo, J Liu, R Sankar, NL Wang, F Chou, L Fu, Z Li., *Nature Communications*. 8 (1) (2017) 366.

76. **Proximity-effect-induced Superconducting Gap in Topological Surface States: A point contact Spectroscopy study of NbSe$_2$/Bi$_2$Se$_3$.** Wenqing Dai, Anthony Richardella, Renzhong Du, Weiwei Zhao, Xin Liu, C.X. Liu, Song-Hsun Huang, Raman Sankar, Fangcheng Chou, Nitin Samarth, and Qi Li., *Scientific Reports*. 7 (2017) 7631.

77. **Optical spectroscopy study on pressure-induced phase transitions in the three-dimensional Dirac semimetal Cd$_3$As$_2$.** E Uykur, R Sankar, D Schmitz, CA Kuntscher., *Phys. Rev. B*. 96, (2017) 195137.

78. **Correlation between non-Fermi-liquid behavior and superconductivity in (Ca, La)(Fe, Co) As$_2$ iron arsenides: A high-pressure study.** W Zhou, F Ke, Xiaofeng Xu, R Sankar, X Xing, CQ Xu, XF Jiang, B Qian, N Zhou, Y Zhang, M Xu, B Li, B Chen, ZX Shi., *Physical Review B*. 96 (18) 184503.
79. Quasiparticle Interference in ZrSiS-Strongly Band-Selective Scattering Depending on Impurity Lattice Site. CJ Butler, YM Wu, CR Hsing, Y Tseng, R Sankar, CM Wei, FC Chou, Physical Review B. 96 (2017) 195125.

80. Enhanced electron correlations in the binary stannide PdSn 4: A homologue of the Dirac nodal arc semimetal PtSn 4. CQ Xu, W Zhou, R Sankar, XZ Xing, ZX Shi, ZD Han, B Qian, JH Wang, Zengwei Zhu, JL Zhang, AF Bangura, NE Hussey, Xiaofeng Xu, Physical Review Materials 1 (2017) 064201.

81. Topological quantum phase transition and superconductivity induced by pressure in the bismuth tellurohalide BiTel. Yanpeng Qi, Wujun Shi, Pavel G Naumov, Nitesh Kumar, Raman Sankar, Walter Schnelle, Chandra Shekhar, FC Chou, Claudia Felser, Binghai Yan, Sergey A Medvedev, Adv. Mater. 29 (2017) 1605965.

82. Antiferromagnetism of Li$_2$Cu$_5$Si$_4$O$_{14}$ with alternating dimers and trimers in chains. GS Murugan, PJ Chen, R Sankar, IP Muthuselvam, GN Rao, FC Chou, Physical Review B. 95 (2017) 174442.

83. Magnetic field-induced electronic and topological phase transitions in Weyl type-I semi-metals. QR Zhang, B Zeng, D Rhodes, S Memaran, T Besara, R Sankar, F Chou, N Alidoust, S-Y Xu, I Belopolski, MZ Hasan, L Balicas., arXiv preprint arXiv: 1705 (2017) 00920.

84. Large negative thermal expansion in the cubic phase of CaMn$_7$O$_{12}$. K Gautam, DK Shukla, S Francoual, J Bednarcik, JRL Mardegan, H-P Liermann, R Sankar, FC Chou, DM Phase, J Strempfer, Physical Review B. 95 (2017) 144412.

85. Tunability of the topological nodal-line semimetal phase in ZrSi X-type materials (X= S, Se, Te). M Mofazzel Hosen, Klauss Dimitri, Ilya Belopolski, Pablo Maldonado, Raman Sankar, Nagendra Dhakal, Gyanendra Dhakal, Taiason Cole, Peter M Oppeneer, Dariusz Kaczorowski, Fangcheng Chou, M Zahid Hasan, Tomasz Durakiewicz, Madhab Neupane, Physical Review B. 95 (2017)161101.

86. µSR study of noncentrosymmetric superconductor PbTaSe$_2$. MN Wilson, AM Hallas, Y Cai, S Guo, Z Gong, R Sankar, FC Chou, YJ Uemura, GM Luke., Physical Review B. 95 (2017) 224506.

87. Sodium layer chiral distribution and spin structure of Na$_2$Ni$_5$TeO$_6$ with a Ni honeycomb lattice. Sunil K Karna, Y Zhao, R Sankar, M Avdeev, PC Tseng, CW Wang, GJ Shu, K Matan, GY Guo, FC Chou., Physical Review B. 95 (2017) 104408.

88. Observation of surface superstructure induced by systematic vacancies in the topological Dirac semimetal Cd$_3$As$_2$. Christopher J Butler, Yi Tseng, Cheng-
Rong Hsing, Yu-Mi Wu, **Raman Sankar**, Mei-Fang Wang, Ching-Ming Wei, Fang-Cheng Chou, Minn-Tsong Lin, *Physical Review B*. **95** (2017) 081410.

89. **Anisotropic superconducting property studies of single crystal PbTaSe₂.** Raman Sankar, G Narsinga Rao, I Panneer Muthuselvam, Tay-Rong Chang, HT Jeng, G Senthil Murugan, Wei-Li Lee, FC Chou, *Journal of Physics: Condensed Matter*. **29** (2017) 095601.

90. **Crystal growth of Dirac semimetal ZrSiS with high magnetoresistance and mobility.** Raman Sankar, G Peramaiyan, I Panneer Muthuselvam, Christopher J Butler, Klauss Dimitri, Madhab Neupane, G Narsinga Rao, M-T Lin, FC Chou, *Scientific reports*. **7** (2017) 40603.

91. **Optical phonon dynamics and electronic fluctuations in the Dirac semimetal Cd₃As₂.** A Sharafeev, V Gnezdilov, R Sankar, FC Chou, P Lemmens, *Phys. Rev. B* **95** (2017) 235148.

92. **Epitaxial growth of vertically stacked p-MoS₂/n-MoS₂ heterostructures by chemical vapor deposition for light emitting devices.** Revannath Dnyandeo Nikam, Poonam Ashok Sonawane, Raman Sankar, Yit-Tsong Chen, **32**(2017) 454.

93. **Polyomorphous layered MoTe₂ from semiconductor, topological insulator, to Weyl Semimetal.** Raman Sankar, G Narsinga Rao, I Panneer Muthuselvam, Christopher Butler, Nitesh Kumar, G Senthil Murugan, Chandra Shekhar, Tay-Rong Chang, Cheng-Yen Wen, Chun-Wei Chen, Wei-Li Lee, M-T Lin, Horng-Tay Jeng, Claudia Felser, FC Chou, *Chemistry of Materials* **29** (2017) 699-707.

94. **Erratum: Observation of ultrahigh mobility surface states in a topological crystalline insulator by infrared spectroscopy.** Wang, Ying, Guoyu Luo, Junwei Liu, R. Sankar, Nan-Lin Wang, Fangcheng Chou, Liang Fu, and Zhiqiang Li. *Nature communications* **8**, no. 1 (2017) 982.

95. **Topological phase transition under pressure in the topological nodal-line superconductor PbTaSe₂.** CQ Xu, R Sankar, W Zhou, Bin Li, ZD Han, B Qian, JH Dai, Hengbo Cui, AF Bangura, FC Chou, Xiaofeng Xu. *Physical Review B* **96**, no. 6 (2017): 064528.

96. **Ambipolar field-effect transistors by few-layer InSe with asymmetry contact metals.** Lin, Chang-Yu, Rajesh Kumar Ulaganathan, Raman Sankar, and Fang-Cheng Chou. *AIP Advances* **7**, no. 7 (2017) 075314.

97. **Planar Hall-effect, Anomalous planar Hall-effect, and Magnetic Field-Induced Phase Transitions in TaAs.** QR Zhang, B Zeng, YC Chiu, R
Schoenemann, S Memaran, W Zheng, D Rhodes, KW Chen, T Besara, R Sankar, F Chou, GT McCandless, JY Chan, N Alidoust, SY Xu, I Belopolski, MZ Hasan, FF Balakirev, L Balicas. Phys. Rev. B 100 (2017) 115138.

98. Sodium layer chiral distribution and spin structure of Na$_2$Ni$_2$TeO$_6$ with a honeycomb network. Sunil K Karna, Y Zhao, R Sankar, M Avdeev, PC Tseng, CW Wang, GJ Shu, K Matan, GY Guo, FC Chou. Phys. Rev. B 95 (2017) 104408.

99. Antiferromagnetism of Li$_2$Cu$_5$Si$_4$O$_{14}$ with alternating dimers and trimers in chains. Murugan, G. Senthil, P. J. Chen, R. Sankar, I. Panneer Muthuselvam, G. Narsinga Rao, and F. C. Chou. Physical Review B 95, no. 17 (2017): 174442.

100. Surface states dominated infrared conductivity in a topological crystalline insulator. Ying Wang, Guoyu Luo, Junwei Liu, R Sankar, Nan-Lin Wang, Fangcheng Chou, Liang Fu, Zhiqiang Li, arXiv preprint arXiv:1611.04302 (2016).

101. Superconducting topological surface states in the noncentrosymmetric bulk superconductor PbTaSe$_2$. Syu-You Guan, Peng-Jen Chen, Ming-Wen Chu, Raman Sankar, Fangcheng Chou, Horng-Tay Jeng, Chia-Seng Chang, Tien-Ming Chuang., Science Advances. 2 (2016) 1600894.

102. Interplay of orbital effects and nanoscale strain in topological crystalline insulators. Daniel Walkup, Badih Assaf, Kane L Scipioni, R Sankar, Fangcheng Chou, Guoqing Chang, Hsin Lin, Ilija Zeljkovic, Vidya Madhavan, arXiv preprint arXiv:1610.09337 (2016).

103. Influence of induced defects on transport properties of the Bridgman-grown Bi$_2$Se$_3$-based single crystals. KK Wu, B Ramachandran, YK Kuo, R Sankar, FC Chou, Journal of Alloys and Compounds. 682 (2016) 225.

104. Quasiparticle Scattering in the Rashba Semiconductor BiTeBr: The Roles of Spin and Defect Lattice Site. Christopher John Butler, Po-Ya Yang, Raman Sankar, Yen-Neng Lien, Chun-I Lu, Luo-Yueh Chang, Chia-Hao Chen, Ching-Ming Wei, Fang-Cheng Chou, Minn-Tsong Lin, ACS nano. 10 (2016) 9361.

105. Topological Dirac surface states and superconducting pairing correlations in PbTaSe$_2$. Tay-Rong Chang, Peng-Jen Chen, Guang Bian, Shin-Ming Huang, Hao Zheng, Titus Neupert, Raman Sankar, Su-Yang Xu, Ilya Belopolski, Guoqing Chang, BaoKai Wang, Fangcheng Chou, Arun Bansil,
Horng-Tay Jeng, Hsin Lin, M Zahid Hasan, Physical Review B. 93 (2016) 245130.

106. Tunable photoinduced carrier transport of a black phosphorus transistor with extended stability using a light-sensitized encapsulated layer. Po-Hsun Ho, Min-Ken Li, Raman Sankar, Fu-Yu Shih, Shao-Sian Li, Yih-Ren Chang, Wei-Hua Wang, Fang-Cheng Chou, Chun-Wei Chen., ACS Photonics. 3 (2016) 1102.

107. Ultra-thin layered ternary single crystals [Sn (SₓSe₁₋ₓ)₂] with bandgap engineering for high performance phototransistors on versatile substrates. Packiyaraj Perumal, Rajesh Kumar Ulaganathan, Raman Sankar, Yu-Ming Liao, Tzu-Min Sun, Ming-Wen Chu, Fang Cheng Chou, Yit-Tsong Chen, Min-Hsiung Shih, Yang-Fang Chen, Advanced Functional Materials. 26 (2016) 3630.

108. Observation of topological nodal fermion semimetal phase in ZrSiS. Madhab Neupane, Ilya Belopolski, M Mofazzel Hosen, Daniel S Sanchez, Raman Sankar, Maria Szlawksa, Su-Yang Xu, Klaus Dimitri, Nagendra Dhakal, Pablo Maldonado, Peter M Oppeneer, Dariusz Kaczorowski, Fangcheng Chou, M Zahid Hasan, Tomasz Durakiewic, Physical Review B. 93 (2016) 201104.

109. Tellurium-bridged two-leg spin ladder in Ba₂CuTeO₆. G Narsinga Rao, R Sankar, Akansha Singh, I Panneer Muthuselvam, WT Chen, Viveka Nand Singh, Guang-Yu Guo, FC Chou, Physical Review B. 93 (2016) 104401.

110. Growth of the Bi₂Se₃ Surface Oxide for Metal–Semiconductor–Metal Device Applications. Yun-Chieh Yeh, Po-Hsun Ho, Cheng-Yen Wen, Guo-Jiun Shu, Raman Sankar, Fang-Cheng Chou, Chun-Wei Chen, J. Phys. Chem. C., 120 (2016) 3314.

111. Topological nodal-line fermions in spin-orbit metal PbTaSe₂. Guang Bian, Tay-Rong Chang, Raman Sankar, Su-Yang Xu, Hao Zheng, Titus Neupert, Ching-Kai Chiu, Shin-Ming Huang, Guoqing Chang, Ilya Belopolski, Daniel S Sanchez, Madhab Neupane, Nasser Alidoust, Chang Liu, BaoKai Wang, Chi-Cheng Lee, Horng-Tay Jeng, Chenglong Zhang, Zhujun Yuan, Shuang Jia, Arun Bansil, Fangcheng Chou, Hsin Lin, M Zahid Hasan, Nature Communications. 7 (2016) 10556.

112. Atomic-scale visualization of quantum interference on a Weyl semimetal surface by scanning tunneling microscopy. Hao Zheng, Su-Yang Xu, Guang Bian, Cheng Guo, Guoqing Chang, Daniel S Sanchez, Ilya Belopolski, Chi-Cheng Lee, Shin-Ming Huang, Xiao Zhang, Raman Sankar, Nasser Alidoust, Tay-Rong Chang, Fan Wu, Titus Neupert, Fangcheng Chou, Horng-Tay Jeng, Nan Yao, Arun Bansil, Shuang Jia, Hsin Lin, M Zahid Hasan, ACS nano. 10 (2016) 1378.
113. Screening limited switching performance of multilayer 2D semiconductor FETs: the case for SnS. Sukrit Sucharitakul, U Rajesh Kumar, Raman Sankar, Fang-Cheng Chou, Yit-Tsong Chen, Chuhan Wang, Cai He, Rui He, Xuan PA Gao, Nanoscale. 8 (2016) 19050.

114. Observation of the spin-polarized surface state in a non-centrosymmetric superconductor BiPd. Madhab Neupane, Nasser Alidoust, M Mofazzel Hosen, Jian-Xin Zhu, Klauss Dimitri, Su-Yang Xu, Nagendra Dhakal, Raman Sankar, Ilya Belopolski, Daniel S Sanchez, Tay-Rong Chang, Horng-Tay Jeng, Koji Miyamoto, Taichi Okuda, Hsin Lin, Arun Bansil, Dariusz Kaczorowski, Fangcheng Chou, M Zahid Hasan, Tomasz Durakiewicz, Nature Communications. 7 (2016) 13315.

115. Large transverse Hall-like signal in topological Dirac semimetal Cd$_3$As$_2$. Shih-Ting Guo, R Sankar, Yung-Yu Chien, Tay-Rong Chang, Horng-Tay Jeng, Guang-Yu Guo, FC Chou, Wei-Li Lee, Scientific Reports. 6 (2016) 27487.

116. Intermixing-seeded growth for high-performance planar heterojunction perovskite solar cells assisted by precursor-capped nanoparticles. Shao-Sian Li, Chi-Huang Chang, Ying-Chiao Wang, Chung-Wei Lin, Di-Yan Wang, Jou-Chun Lin, Chia-Chun Chen, Hwo-Shuenn Sheu, Hao-Chung Chia, Wei-Ru Wu, U-Ser Jeng, Chi-Te Liang, Raman Sankar, Fang-Cheng Chou, Chun-Wei Chen, Energy & Environmental Science. 9 (2016) 1282.

117. High photosensitivity and broad spectral response of multi-layered germanium sulfide transistors. Rajesh Kumar Ulaganathan, Yi-Ying Lu, Chia-Jung Kuo, Srinivasa Reddy Tamalampudi, Raman Sankar, Karunakara Moorthy Boopathi, Ankur Anand, Kanchan Yadav, Roshan Jesus Mathew, Chia-Rung Liu, Fang Cheng Chou, Yit-Tsong Chen, Nanoscale. 8 (2016) 2284.

118. Electronic structure and relaxation dynamics in a superconducting topological material. Madhab Neupane, Yukiahi Ishida, Raman Sankar, Jian-Xin Zhu, Daniel S Sanchez, Ilya Belopolski, Su-Yang Xu, Nasser Alidoust, M Mofazzel Hosen, Shik Shin, Fangcheng Chou, M Zahid Hasan, Tomasz Durakiewicz, Scientific Reports. 6 (2016) 22557.

119. Corrigendum: Observation of a topological crystalline insulator phase and topological phase transition in Pb $1 - x$ Sn $x$ Te. Su-Yang Xu, Chang Liu, N Alidoust, M Neupane, D Qian, I Belopolski, JD Denlinger, YJ Wang, H Lin, LA Wray, G Landolt, B Slomski, JH Dil, A Marcinkova, E Morosan, Q Gibson, R Sankar, FC Chou, RJ Cava, A Bansil, MZ Hasan, Nature communications 7 (2016) 12505.

120. Topological dirac states and pairing correlations in the non-centrosymmetric superconductor PbTaSe$_2$. Tay-Rong Chang, Peng-Jen Chen, Guang Bian, Titus
Neupert, Raman Sankar, Su-Yang Xu, Ilya Belopolski, Shin-Ming Huang, Guoqing Chang, BaoKai Wang, Hao Zheng, Fangcheng Chou, Arun Bansil, Horng-Tay Jeng, Hsin Lin, M Zahid Hasan. Phys. Rev. B 93 (2016) 245130.

121. Atomic Scale Visualization of Quantum Interference on a Weyl Semimetal Surface by Scanning Tunneling Microscopy/Spectroscopy. Hao Zheng, Su-Yang Xu, Guang Bian, Cheng Guo, Guoqing Chang, Daniel S Sanchez, Ilya Belopolski, Chi-Cheng Lee, Shin-Ming Huang, Xiao Zhang, Raman Sankar, Nasser Alidoust, Tay-Rong Chang, Fan Wu, Titus Neupert, Fangcheng Chou, Horng-Tay Jeng, Nan Yao, Arun Bansil, Shuang Jia, Hsin Lin, M Zahid Hasan. ACS Nano 2016, 10, 1, 1378–1385.

122. Topological nodal-line fermions in the non-centrosymmetric superconductor compound PbTaSe2. Guang Bian, Tay-Rong Chang, Raman Sankar, Su-Yang Xu, Hao Zheng, Titus Neupert, Ching-Kai Chiu, Shin-Ming Huang, Guoqing Chang, Ilya Belopolski, Daniel S Sanchez, Madhab Neupane, Nasser Alidoust, Chang Liu, BaoKai Wang, Chi-Cheng Lee, Horng-Tay Jeng, Arun Bansil, Fangcheng Chou, Hsin Lin, M Zahid Hasan. Nature Communications 7, (2016) 10556.

(2015)

123. Experimental discovery of a topological Weyl semimetal state in TaP. Su-Yang Xu, Ilya Belopolski, Daniel S Sanchez, Chenglong Zhang, Guoqing Chang, Cheng Guo, Guang Bian, Zhujun Yuan, Hong Lu, Tay-Rong Chang, Pavel P Shibayev, Mykhailo L Prokopovych, Nasser Alidoust, Hao Zheng, Chi-Cheng Lee, Shin-Ming Huang, Raman Sankar, Fangcheng Chou, Chuang-Han Hsu, Horng-Tay Jeng, Arun Bansil, Titus Neupert, Vladimir N Strocov, Hsin Lin, Shuang Jia, M Zahid Hasan. Science Advances. 1 (2015) e1501092.

124. Successive spin orderings of tungstate-bridged Li2Ni(WO4)2 of spin 1. I Panneer Muthuselvam, R Sankar, AV Ushakov, WT Chen, G Narsinga Rao, Sergey V Streltsov, Sunil K Karna, L Zhao, MK Wu, FC Chou, Journal of Physics: Condensed Matter. 27 (2015) 456001.

125. Organic Monolayer Protected Topological Surface State. Hung-Hsiang Yang, Yu-Hsun Chu, Chun-I Lu, Christopher John Butler, Raman Sankar, Fang-Cheng Chou, Minn-Tsong Lin, Nano letters. 15 (2015) 6896.

126. Enhancement of thermoelectric figure of merit in β-Zn4Sb3 by indium doping control. Pai-Chun Wei, Chun-Chuen Yang, Jeng-Lung Chen, Raman Sankar, Chi-Liang Chen, Chia-Hao Hsu, Chung-Chieh Chang, Cheng-Lung Chen, Chung-Li Dong, Fang-Cheng Chou, Kuei-Hsien Chen, Maw-Kuen Wu, Yang-Yuan Chen, Applied Physics Letters. 107 (2015) 123902.
127. **Hierarchical spin-orbital polarization of a giant Rashba system.** Lewis Bawden, Jonathan M Riley, Choong H Kim, Raman Sankar, Eric J Monkman, Daniel E Shai, Haofei I Wei, Edward B Lochocki, Justin W Wells, Worawat Meevasana, Timur K Kim, Moritz Hoesch, Yoshiyuki Ohtsubo, Patrick Le Fèvre, Craig J Fennie, Kyle M Shen, Fangcheng Chou, Phil DC King, *Science Advances*. 1 (2015) e1500495.

128. **Fe-excess Ions as Electronic Charge Suppliers for Zero Thermal Expansion in the Normal State of Fe$_{1.16}$Te$_{0.6}$Se$_{0.4}$.** Sunil K Karna, Chi-Hung Lee, Wen-Hsien Li, Raman Sankar, Fang-Cheng Chou, Maxim Avdeev, *Journal of the Physical Society of Japan*. 84 (2015) 094713.

129. **Strain engineering Dirac surface states in heteroepitaxial topological crystalline insulator thin films.** Ilija Zeljkovic, Daniel Walkup, Badih A Assaf, Kane L Scipioni, Raman Sankar, Fangcheng Chou, Vidya Madhavan, *Nature Nanotechnology*. 10 (2015) 849.

130. **Topological phase diagram and saddle point singularity in a tunable topological crystalline insulator.** Madhab Neupane, Su-Yang Xu, R Sankar, Q Gibson, YJ Wang, I Belopolski, N Alidoust, G Bian, PP Shibayev, DS Sanchez, Y Ohtsubo, A Taleb-Ibrahimi, S Basak, W-F Tsai, H Lin, Tomasz Durakiewicz, RJ Cava, A Bansil, FC Chou, M Zahid Hasan, *Physical Review B*. 92 (2015) 075131.

131. **Large single crystal growth, transport property, and spectroscopic characterizations of three-dimensional Dirac semimetal Cd$_3$As$_2$.** R Sankar, M Neupane, S-Y Xu, CJ Butler, I Zeljkovic, I Panneer Muthuselvam, F-T Huang, S-T Guo, Sunil K Karma, M-W Chu, WL Lee, M-T Lin, R Jayavel, V Madhavan, MZ Hasan, FC Chou, *Scientific Reports*. 5 (2015) 12966.

132. **Lifshitz transition and Van Hove singularity in a three-dimensional topological Dirac semimetal.** Su-Yang Xu, Chang Liu, I Belopolski, SK Kushwaha, R Sankar, JW Krizan, TR Chang, CM Polley, Johan Adell, T Balasubramanian, K Miyamoto, N Alidoust, Guang Bian, M Neupane, H-T Jeng, C-Y Huang, W-F Tsai, T Okuda, A Bansil, FC Chou, RJ Cava, Hsin Lin, M Zahid Hasan, *Physical Review B*. 92 (2015) 075115.

133. **Discovery of a Weyl fermion semimetal and topological Fermi arcs.** Su-Yang Xu, Ilya Belopolski, Nasser Alidoust, Madhab Neupane, Guang Bian, Changle Zhang, Raman Sankar, Guoqing Chang, Zhujun Yuan, Chi-Cheng
Lee, Shin-Ming Huang, Hao Zheng, Jie Ma, Daniel S Sanchez, BaoKai Wang, Arun Bansil, Fangcheng Chou, Pavel P Shibayev, Hsin Lin, Shuang Jia, M Zahid Hasan, Science. 349 (2015) 613.

134. Antiferromagnetic spin structure and negative thermal expansion of Li$_2$Ni(WO$_4$)$_2$. Sunil K Karna, CW Wang, R Sankar, M Avdeev, A Singh, I Panneer Muthuselvam, VN Singh, GY Guo, FC Chou, Physical Review B. 92 (2015) 014413.

135. Surface versus bulk Dirac state tuning in a three-dimensional topological Dirac semimetal. Madhab Neupane, Su-Yang Xu, Nasser Alidoust, Raman Sankar, Ilya Belopolski, Daniel S Sanchez, Guang Bian, Chang Liu, Tay-Rong Chang, Horng-Tay Jeng, BaoKai Wang, Guoqing Chang, Hsin Lin, Arun Bansil, Fangcheng Chou, M Zahid Hasan, Physical Review B. 91 (2015) 241114.

136. Intrinsic electron mobility exceeding 103 cm$^2$/Vs in multilayer InSe FETs. Sukrit Sucharitakul, Nicholas J Goble, U Rajesh Kumar, Raman Sankar, Zachary A Bogorad, Fang-Cheng Chou, Yit-Tsong Chen, Xuan PA Gao, Nano letters. 15 (2015), 3815.

137. Doping effects on charge density instability in non-centrosymmetric Pb$_x$TaSe$_2$. Azat Sharafeev, Raman Sankar, Alexander Glamazda, Kwang-Yong Choi, Robert Bohle, Peter Lemmens, Fangcheng Chou, arXiv preprint arXiv:1505.00748 (2015).

138. Magnetic Orderings in Li$_2$Cu(WO$_4$)$_2$ with Tungstate-Bridged Quasi-1D Spin-1/2 Chains. I Panneer Muthuselvam, Raman Sankar, Viveka Nand Singh, G Narsinga Rao, Wei-Li Lee, Guang-Yu Guo, Fang-Cheng Chou, Inorganic chemistry. 54 (2015) 4303.

139. Nanoscale determination of the mass enhancement factor in the lightly doped bulk insulator lead selenide. Ilija Zeljkovic, Kane L Scipioni, Daniel Walkup, Yoshinori Okada, Wenwen Zhou, Raman Sankar, Guoqing Chang, Yung Jui Wang, Hsin Lin, Arun Bansil, Fangcheng Chou, Ziqiang Wang, Vidya Madhavan. Nature Communications. 6 (2015) 6559.

140. Graphene-like conjugated $\pi$ bond system in Pb$_{1-x}$Sn$_x$Se. GJ Shu, SC Liou, S Karna, R Sankar, M Hayashi, M-W Chu, FC Chou, Applied Physics Letters. 106 (2015) 122101.

141. Dirac mass generation from crystal symmetry breaking on the surfaces of topological crystalline insulators. Ilija Zeljkovic, Yoshinori Okada, Maksym Serbyn, R Sankar, Daniel Walkup, Wenwen Zhou, Junwei Liu, Guoqing Chang, Yung Jui Wang, M Zahid Hasan, Fangcheng Chou, Hsin Lin, Arun Bansil, Liang Fu, Vidya Madhavan, Nature materials. 14 (2015) 318.
142. Antiferromagnetism of Ni$_2$NbBO$_6$ with S= 1 dimer quasi-one-dimensional armchair chains. G Narsinga Rao, Viveka Nand Singh, R Sankar, I Panneer Muthuselvam, Guang-Yu Guo, FC Chou, Physical Review B. 91 (2015) 014423.

143. Observation of Fermi arc surface states in a topological metal. Su-Yang Xu, Chang Liu, Satya K Kushwaha, Raman Sankar, Jason W Krizan, Ilya Belopolski, Madhab Neupane, Guang Bian, Nasser Alidoust, Tay-Rong Chang, Horng-Tay Jeng, Cheng-Yi Huang, Wei-Feng Tsai, Hsin Lin, Pavel P Shibayev, Fang-Cheng Chou, Robert J Cava, M Zahid Hasan, Science. 347 (2015) 294.

144. Manifestation of a second Dirac surface state and bulk bands in THz radiation from topological insulators. Chien-Ming Tu, Tien-Tien Yeh, Wen-Yen Tzeng, Yi-Ru Chen, Hsueh-Ju Chen, Shin-An Ku, Chih-Wei Luo, Jiunn-Yuan Lin, Kaung-Hsiung Wu, Jenh-Yih Juang, Takayoshi Kobayashi, Cheng-Maw Cheng, Ku-Ding Tsuei, Helmut Berger, Raman Sankar, Fang-Cheng Chou, Scientific Reports. 5 (2015) 14128.

145. Development of a ferromagnetic component in the superconducting state of Fe-excess Fe$_{1.12}$Te$_{1-x}$Se$_x$ by electronic charge redistribution. Wen-Hsien Li, Sunil K Karna, Han Hsu, Chi-Yen Li, Chi-Hung Lee, Raman Sankar, Fang Cheng Chou, Scientific Reports. 5 (2015) 10951.

146. Enhanced thermoelectric performance of GeTe-rich germanium antimony tellurides through the control of composition and structure. Raman Sankar, Deniz P Wong, Chiao-Song Chi, Wei-Lun Chien, Jih-Shang Hwang, Fang-Cheng Chou, Li-Chyong Chen, Kuei-Hsien Chen, Cryst Eng Comm. 17 (2015) 3440.

147. Experimental realization of a topological Weyl semimetal phase with Fermi arc surface states in TaAs. Su-Yang Xu, Ilya Belopolski, Nasser Alidoust, Madhab Neupane, Chenglong Zhang, Raman Sankar, Shin-Ming Huang, Chi-Cheng Lee, Guoqing Chang, B Wang, Guang Bian, Hao Zheng, Daniel S Sanchez, Fangcheng Chou, Hsin Lin, Shuang Jia, M Zahid Hasan, Science. 349 (2015) 613.

148. Crystal growth and evidence of cationic mixing and magnetic ordering in the honeycomb layer of Na$_2$Ni$_2$TeO$_6$ and Na$_2$Cu$_2$TeO$_6$. R. Sankar, I. Panneer Muthuselvam, G. J. Shu and W. T. Chen, R. Jayavel and F.C.Chou, Cryst Eng Comm. 16 (2014) 10791.
149. Room temperature agglomeration for the growth of BiTeI single crystal with giant Rashba effect. R. Sankar, Christopher John Butler, S.-C. Liou, I. Panneer Muthuselvam, yM.-W. Chu, yW. L. Lee, Minn-Tsong Lin, x R.Jayavel, and F. C. Chou. Cryst Eng Comm. 16 (2014) 8678.

150. Observation of a topological 3D Dirac semimetal phase in high-mobility Cd₃As₂ and related materials. M. Neupane, SuYang Xu, R. Sankar, N. Alidoust, G. Bian, Chang Liu, I. Belopolski, T. -R. Chang, H. -T. Jeng, H. Lin, A. Bansil, Fangcheng Chou, M. Z. Hasan., Nature Communications. 5 (2014) 3786.

151. Momentum space imaging of Cooper pairing in a half Dirac gas. Su-Yang Xu, Nasser Alidoust, Ilya Belopolski, Anthony Richardella, Chang Liu, Madhab, Neupane, Guang Bian, Song-Hsun Huang, Raman Sankar, Brian Delabetta, Chen Fang, Wenqing Dai, Qi Li, Matthew J. Gilbert, Fangcheng Chou, Nitin Samarth, and M. Zahid Hasan, Nature Phy. 10 (2014) 943.

152. Mapping Polarization Induced Surface Band Bending on the Rashba Semiconductor BiTeI. Christopher John Butler, Hung-Hsiang Yang, Jhen-Yong Hong, Shih-Hao Hsu, Raman Sankar, Chun-I Lu, Hsin-Yu Lu, Kui-Hon Ou Yang, Hung-Wei Shiu, Chia-HaoChen, Chao-Cheng Kaun, Guo-Jiun Shu, Fang-Cheng Chou, and Minn-Tsong Lin, Nature Communications. 5 (2014) 4066.

153. Transformation of Dirac Surface States across the Quantum Phase Transition in a Topological Crystalline Insulator. Ilija Zeljkovic, Yoshinori Okada, Maksym Serbyn, R. Sankar, Daniel Walkup, Wenwen Zhou, M. Zahid Hasan Fangcheng Chou, Liang Fu and Vidya Madhavan. Science (2014) (Accepted)

154. Solution-processable bismuth iodide nanosheets as hole transport layers for organic solar cells. Karunakara Moorthy Boopathi, Sankar Raman, Rajesh kumar Mohanraman , Fang-Cheng Chou , Yang-Yuang Chen , Chih-Hao Lee, Feng-Chih Chang , Chih-Wei Chu Solar Energy Materials & Solar Cells. 121 (2014) 35.

155. Two-step antiferromagnetic orderings and moderate triangular frustration in Li₂Co(WO₄)₂. Panneer Muthuselvam I, Sankar R, Ushakov A V, Narsinga Rao G, Sergey V. Streltsov and Chou F C, Phys. Rev. B. 90 (2014) 174430.

156. A High Performance and Broad Spectral Response Photodetector Based on Few-Layered InSe Nanosheets Fabricated on Rigid and Flexible Substrates. Srinivasa Reddy Tamalampudi, Yi-Ying Lu, Rajesh Kumar U., Raman Sankar, Chun-Da Liao, Karunakara Moorthy B., Che-Hsuan Cheng, Fang Cheng Chou, and Yit-Tsong Chen. Nano Lett. 14 (5) (2014) 2800.
157. **Influence of In doping on the thermoelectric properties of AgSbTe$_2$ compound with enhanced figure of merit.** Rajesh Kumar Mohanraman, Raman Sankar, Karunakara Moorthy Boopathi, Fang-Cheng Chou, Chih Wei Chu, Chih-Hao Lee and Yang-Yuan Chen. *J. Mater. Chem. A.* 2 (2014) 2839.

158. **Observation of monolayer valence band spin-orbit effect and induced quantum well states in MoX$_2$.** Nasser Alidoust, Guang Bian, Su-Yang Xu, Raman Sankar, Madhab Neupane, Chang Liu, Ilya Belopolski, Dong-Xia Qu, Jonathan D. Denlinger, Fang-Cheng Chou, M. Zahid Hasan. *Nature Communications.* 5 (2014) 4673.

159. **Enhanced quasiparticle dynamics of quantum well states: The giant Rashba system BiTeI and topological insulators.** V. Gnezdilov, D. Wulferding, P. Lemmens, A. Möller, P. Recher, H. Berger, R. Sankar and F. C. Chou. *Phys. Rev. B* 89 (2014) 195117.

160. **Mapping the unconventional orbital texture in topological crystalline insulators.** Ilija Zeljkovic, Yoshinori Okada, Cheng-Yi Huang, R. Sankar, Daniel Walkup, Wenwen Zhou, Maksym Serbyn, Fangcheng Chou, Wei-Feng Tsai, Hsin Lin, Arun Bansil, Liang Fu, M. Zahid Hasan, Vidya Madhavan. *Nature Physics.* 10 (2014) 572.

161. **Influence of nanoscale Ag2Te precipitates on the thermoelectric properties of the Sn doped P-type AgSbTe2 compound.** Rajeshkumar Mohanraman, Raman Sankar, Fang-Cheng Chou, Chih-Hao Lee, Yoshiyuki Iizuka, I Panneer Muthuselvam, Yang-Yuan Chen. *APL Materials.* 2, no. 9 (2014): 096114.

162. **Magnetic and thermal property studies of RCrTeO6 (R-trivalent lanthanides) with layered honeycomb sublattices.** G. Narsinga Rao, R. Sankar, I. Panneer Muthuselvama, F.C. Chou. *Journal of Magnetism and Magnetic Materials.* 370 (2014) 13.

163. **Direct Interplay between Superconductivity and Ferromagnetism in Fe1+y(Te0.5Se0.5).** Sunil K. Karan, Han Hsu, Chi-Yen Li, Shin-Bin Liu, Chi-Hung Lee, Wen-Hsien Li, Raman Sankar and Fang Cheng Chou. *Journal of Physical Society of Japan.* 83 (2014) 074709.

(2013)

164. **Growing of fixed orientation plane of single crystal using the Flux Growth technique and Ferrimagnetic ordering in Ni$_3$TeO6 of stacked 2D honeycomb rings.** R. Sankar, G. J. Shu, and F. C. Chou. *Dalton Trans.* 42 (2013) 10439.
165. **Observation of Dirac Node Formation and Mass Acquisition in a Topological Crystalline Insulator.** Yoshinori Okada, Maksym Serbyn, Hsin Lin, Daniel Walkup, Wenwen Zhou, Chetan Bhital, Madhab Neupane, Suyang Xu, Yung Jui Wang, R. Sankar, Fangcheng Chou, Arun Bansil, M. Zahid Hasan, Stephen D Wilson, Liang Fu, Vidya Madhavan., *Science.* **341** (2013) 1496.

166. **THz Generation and Detection on Dirac Fermions in Topological Insulators.** C. W. Luo, C. C. Lee, H. -J. Chen, C. M. Tu, S. A. Ku, W. Y. Tzeng, T. T. Yeh, M. C. Chiang, H. J. Wang, W. C. Chu, [...], K. H. Wu, J. Y. Juang, T. Kobayashi, C. -M. Cheng, C. -H. Chen, K. -D. Tsuei, H. Berger, R. Sankar, F. C. Chou, H. D. Yang., *Adv. Optical Mater.* **1** (2013) 804.

167. **Enhanced thermoelectric performance in Bi-doped p-type AgSbTe2 compounds.** R. Mohanraman, Raman Sankar, F. C. Chou, C. H. Lee and Y. Chen, *Journal of Applied Physics.* **114** (2013) 163712.

168. **Large magnetoresistance and charge transfer between the conduction and magnetic electrons in layered oxyselenide BiOCu0.96Se.** Sunil K. Karna, C.-H. Hung, C.-M. Wu, C.-W. Wang, W.-H. Li, R. Sankar, F. C. Chou, and M. Avdeev, *Dalton Trans.* **42** (2013) 15581.

169. **Magnetic-field-tunable negative thermal expansion in layered oxyselenide BiOCuSe.** Sunil K. Karna, W.-H. Li, C.-M. Wu, C. W. Wang, R. Sankar and F. C. Chou. *J. Phys. Soc. Jpn.* **82** (2013) 094705.

170. **Anomalous behavior in the phonon dispersion of the (001) surface of Bi2Te3 determined from helium atom-surface scattering measurements.** Colin Howard and M. El-Batanouny, R. Sankar and F. C. Chou., *Phys. Rev. B.* **88** (2013) 035402.

171. **Snapshots of Dirac Fermions near the Dirac Point in Topological Insulators.** C. W. Luo, H. J. Wang, S. A. Ku, H.-J. Chen, T. T. Yeh, J.-Y. Lin, K. H. Wu, R. Sankar, F. C. Chou, K. A. Kokh, O. E. Tereshchenko, E. V. Chulkov, Yu. M. Andreev, and G. D. Gu., *Nano Lett.* **13** (2013) 5797.

172. **Plasmons dispersion and nonvertical interband transitions in single crystal Bi2Se3 investigated by electron energy-loss spectroscopy.** S. C. Liou, M.-W. Chu, R. Sankar, F.-T. Huang, G. J. Shu, F. C. Chou, and C. H. Chen, *Phy.Rev. B.* **87** (2013) 085126.

173. **Magneto-transport measurement in BiTeI single crystal.** Chang-Ran Wang, Raman Sankar Chia-Tso Hsieh, Wei-Li Lee, Guang-Yu Hsu, Y.H. Matsuda, K. Kindo, C.C. Chou, H.D. Yang, H. Berger, F.C. Chou., *Phys. Rev. B.* **88**, (2013) 081104.

174. **Lead aVR—the neglected lead.** Chenniappan, M., R. U. Sankar, and K. Saravanan.
The Journal of the Association of Physicians of India 61, no. 9 (2013): 650-654.

175. **Terahertz Generation**: THz Generation and Detection on Dirac Fermions in Topological Insulators (Advanced Optical Materials 11/2013). Chih Wei Luo, Hsueh-Ju Chen, Chien Ming Tu, Chia Ching Lee, Shinn An Ku, Wen Yen Tzeng, Tien Tien Yeh, Meng Chi Chiang, Harn Jiunn Wang, Wei Chen Chu, Jiunn-Yuan Lin, Kaung Hsiung Wu, Jeng Yih Juang, Takayoshi Kobayashi, Cheng-Maw Cheng, Ching-Hung Chen, Ku-Ding Tseui, Helmuth Berger, Raman Sankar, Fang Cheng Chou, Hung Duen Yang. *Advanced Optical Materials* 1, no. 11 (2013): 886-886.

176. **Observation of a topological crystalline insulator phase and topological phase transition in Pb1_xSnxTe.** Su-Yang Xu, Chang Liu, N. Alidoust, M. Neupane, D. Qian, I. Belopolski, J.D. Denlinger, Y.J. Wang, H. Lin, L.A. Wray, G. Landolt, B. Slomski, J.H. Dil, A. Marcinkova, E. Morosan, Q. Gibson, R. Sankar, F.C. Chou, R.J. Cava, A. Bansil & M.Z. Hasan., *Nature Communications.* 3 (2012) 1192.

177. **Probing the bulk electronic states of Bi2Se3 using nuclear magnetic resonance.** Young, Ben-Li; Lai, Zong-Yo; Xu, Zhijun; Yang, Alina; Gu, G. D.; Pan, Z.-H.; Valla, T.; Shu, G. J.; Sankar, R.; Chou, F. C., *Phys. Rev. B.* 86 (2012) 075137.

178. **Phonon dynamics in Cu_xBi2Se3 (x=0, 0.1, 0.125) and Bi2Se2 crystals studied using femtosecond spectroscopy.** H.-J. Chen, K. H. Wu, C. W. Luo, T. M. Uen, J. Y. Juang, J.-Y. Lin, T. Kobayashi, H.-D. Yang, R. Sankar, F. C. Chou, H. Berger, and J. M. Liu., *Appl. Phys. Lett.* 101 (2012) 121912.

179. **Nonstoichiometric doping and Bi antisite defect in single crystal Bi2Se3.** F.-T. Huang, M.-W. Chu, H. H. Kung, W. L. Lee, R. Sankar, S.-C. Liou, K. K. Wu, Y. K. Kuo, and F. C. Chou., *Phy.Rev.B.* 86 (2012) 081104.

180. **Electron-Phonon Coupling on the Surface of the Topological Insulator Bi2Se3 Determined from Surface-Phonon Dispersion Measurements.** Xuetao Zhu, L. Santos, C. Howard, R. Sankar, F. C. Chou, C. Chamon, and M. El-Batanouny *Phy.Rev.Lett.* 108 (2012) 185501.

181. **Spin, charge and lattice couplings in Cu-deficient oxysulphide BiOCu0:94S.** Sunil K Karna, Chin-Wei Wang, Chun-Ming Wu, Chien-Kang Hsu, Daniel Hsu, Chih-Jen Wang, Wen-Hsien Li, Raman Sankar and Fang-Cheng Chou., *J. Phys.: Condens. Matter.* 24 (2012) 266004.

182. **Modeling and Analysis of Weld Parameters on Micro Hardness in SA 516 Gr. 70 Steel.** M Satheesh, J Edwin Raja Dhas, R Sabarinathan, S Sakthi Kumar, R Sankar. *Procedia engineering* 38 (2012) 4021.
183. Interaction of Phonons and Dirac Fermions on the Surface of Bi$_2$Se$_3$: A Strong Kohn Anomaly. Xuetao Zhu, L. Santos, R. Sankar, S. Chikara, C. Howard, F.C. Chou, C. Chamon, M. El-Batanouny, Phy.Rev.Lett. 107 (2011) 186102.

184. Interplay between the Crystalline and Magnetic Structures in BiOCu$_{0.94}$. Sunil K. KARNA1, Raman SANKAR, Chun-Ming WU, Chin-Wei WANG, Daniel HSU, Chih-Jen WANG, Fang-Cheng CHOU and Wen-Hsien L, J. Phys. Soc. Jpn. 80, (2011) Art. No. SB011.

185. Local inhomogeneity and surface degradation of Fe$_{1.15}$Te and Fe$_{1.03}$Te$_{0.62}$Se$_{0.38}$ single crystals. S. V. Rajasekaran • T. Tite • Y.-M. Chang, R. Sankar • F. C. Chou., J Mater Sci 46 (2011) 7582.

186. Chelating and biological properties of an azo polymer resin: synthesis, characterization and its application. Manjiny Sasidaran, Ramasamy Sankar, Periyasamy Kandasamy, Soundarajan Vijayalakshmi, Thananjayan Kaliyappan High Performance Polymers 23, no. 8 (2011) 602.

187. Synthesis, characterization, thermal and chelation properties of new polymeric hydrazone based on 2, 4-dihydroxy benzaldehyde. Sankar, R., M. Sasidaran, and T. Kaliyappan. High Performance Polymers 23, no. 1 (2011): 32-39.

(2010)

188. Metastable zone width, induction period and interfacial energy of potassium ferrocyanide trihydrate (KFCT) R. Kanagadurai, R. Sankar, G. Sivanesan, R. Jayavel , E-Journal of Chemistry. 7 (2010) 137.

189. Studies on the growth, structural, optical, thermal and electrical properties of nonlinear optical cadmium mercury thiocyanate glycol monomethyl ether single crystal., C.M. Raghavan, A.Bhaskaran, R. Sankar, R. Jayavel., Current Applied Physics. 10 (2010) 1346-51.

190. Synthesis, spectral, thermal, and chelation potentials of polymeric hydrazone based on 2, 4-dihydroxy benzophenone. Sankar, R., S. Vijayalakshmi, S. Rajagopan, and T. Kaliyappan. Journal of applied polymer science 117, 4 (2010) 2146.

191. Determination of Metastable Zone Width, Induction Period and Interfacial Energy of a Ferroelectric Crystal-Potassium Ferrocyanide Trihydrate (KFCT). Kanagadurai, R., R. Durairajan, R. Sankar, G. Sivanesan, and S. P. Elangovan. Journal of Chemistry 7 (2010) 137.
192. Synthesis, growth and characterization of nonlinear optical Diaqua (Thiocyanato) Manganese mercury – N,N- dimethyl acetamide single crystals. C.M. Raghavan, R. Sankar, R. MohanKumar, R. Jayavel., J. Cryst. Growth. 311 (2009) 1346.

193. Efficient blue luminescence in Ce3+-activated borates, A6MM − (BO3) 6. Sankar, R Solid State Sciences 10 (2008) 1864.

194. Efficient green luminescence in Tb3+-activated borates, A6MM − (BO3) 6. Sankar, R. Optical Materials 31 2 (2008) 268.

195. Nucleation Kinetics, Growth and Characterization Studies of a Diamagnetic Crystal-Zinc Sulphate Heptahydrate (ZSHH), R. Kanagadurai, R. Sankar, G. Sivanesan, S. Srinivasan, Rajasekaran, and R. Jayavel E-Journal of Chemistry. 6 (2009) 871.

196. Synthesis, growth and characterization of semi-organic nonlinear optical bis thiourea antimony tri bromide (BTAB) single crystals. N. Karthick, R. Sankar, R. Jayavel, S. Pandi., J. Cryst. Growth, 312 (2009) 114.

197. Synthesis and growth of Sodium Bitartrate monohydrate a new Organometallic nonlinear optical single crystal. V. Siva Shankar, R. Siddheswaran, R. Sankar, R. Jayavel, P. Murugakoothan., Current Applied Physics. 9 (2009) 1125.

198. Growth, optical, thermal and dielectric studies of an amino acid organic nonlinear optical material: l-Alanine. M. Lydia Caroline, R. Sankar, R.M. Indirani, S. Vasudevan., Materials Chemistry and Physics. 114 (2009) 494.

199. Growth and characterization of new semiorganic nonlinear optical single crystal L-Phenylalanine L-Phenylalaninium perchlorate (LPPAPC). V. Siva Shankar, R. Siddheswaran, R. Sankar, R. Jayavel, P. Murugakoothan. Materials Letters. 63 (2009) 363.

(2009)
200. Growth, spectral and thermal properties of KAP single crystals in the presence of DL-Alanine and L-Methionine amino acid dopants. K.Uthayarani, R.Sankar and C.K.Shashidharan Nair, Cryst. Res. Technol. 43 (2008) 733.

201. Investigations on the nucleation kinetics of Tetrathiourea mercury (II) tetra thiocyanato zinc(II) single crystals. K. Rajarajan, R. Sankar, I. Vetha Potheher, P. Sagayaraj., Materials Letters. 62 (2008) 4480.

202. Growth and characterization of nonlinear optical bis-(dimethylsulfoxide) cadmium mercury thiocyanate single crystal. C.M. Raghavan, R. Sankar, R. Mohan Kumar, R. Jayavel J.Cryst.Growth 310 (2008) 4570.

203. Growth and characterization of tetra l-lysine alanine mono hydrochloride dihydrate (TLAMHCl), a new semiorganic nonlinear optical single crystal. V. Siva Shankar, R. Sankar, R. Siddheswaran, R. Jayavel, P. Murugakoothan Materials Chemistry and Physics. 109 (2008) 119.

204. Growth and characterization studies of ferroelectric diglycine nitrate (DGN) single crystals. R. Kanagadurai, R. Sankar, G. Sivanesan, S. Srinivasan, R. Rajasekaran, R. Jayavel., Materials Chemistry and Physics. 108 (2008) 170.

205. Effect of amino acid doping on the growth and ferroelectric properties of triglycerine sulphate single crystals. C.M. Raghavan, R. Sankar, R. Mohan Kumar, R. Jayavel., Materials Research Bulletin. 43 (2008) 305.

206. Structural, thermal, mechanical and optical properties of l-arginine diiodate crystal: A new nonlinear optical material. R. Sankar, R. Muralidharan, C.M. Raghavan, R. Jayavel., Materials Chemistry and Physics. 107 (2008) 51.

207. Growth and characterization of semiorganic nonlinear optical rubidium bis-dl-malato borate single crystals. D. Balasubramanian, R. Sankar, V. Siva Shankar, P. Murugakoothan, P. Arulmozhichelvan, R. Jayavel, Materials Chemistry and Physics. 107 (2008) 57.

208. Synthesis, growth, and characterization of nonlinear optical material l-arginine iodate crystal. R. Sankar, R. Muralidharan, C.M. Rahgavan, R. Mohan Kumar, R. Jayavel., Materials Letters. 62 (2008) 133.

209. Nucleation kinetics and growth of nonlinear optical bis (dimethyl sulfoxide) manganese mercury thiocyanate single crystals. C. M. Raghavan, R. Sankar, R. Mohan Kumar, R. Jayavel, Cryst. Res. Tech. 43 (2008) 1083.

210. Growth, spectral and thermal properties of KAP single crystals in the presence of DL- Alanine and L-Methionine amino acid dopants. K. Uthayarani, R. Sankar, C. K. Shashidharan Nair, Cryst. Res. Tech. 43 (2008) 733.
211. Growth and characterization of semiorganic nonlinear optical tetrakis thiourea nickel chloride single crystals. A. Bhaskaran, C. M. Ragavan, R. Sankar, R. Mohankumar, R. Jayavel, Cryst. Res. Tech. 42 (2007) 477.

212. Growth and characterization of bis-glycine sodium nitrate (BGSN), a novel semi-organic nonlinear optical crystal. R. Sankar, C.M. Ragahvan, R. Mohan Kumar, R. Jayavel J.Cryst.Growth. 309 (2007) 30.

213. Growth and characterization of rare earth metal ion (La, Pr, Sm) doped potassium acid phthalate single crystals. K.Uthayarani, R.Sankar and C.K.Shashidharan Nair, J. Curr. Sci. 10 (2007) 75.

214. Effect of divalent metal ions on the structure, optical and mechanical properties of KAP single crystals. K.Uthayarani, R.Sankar and C.K.Shashidharan Nair, Materials Science Research India, 4 (2007) 127.

215. Growth and Characterization of a new semiorganic nonlinear optical Thiosemicarbazide Cadmium Chloride Monohydrate (Cd(NH$_2$NHCSNH$_2$)Cl$_2$.H$_2$O) single crystals. R. Sankar, C.M. Raghavan, R. Mohan Kumar and R. Jayavel, J.Cryst.Growth. 305 (2007) 156.

216. Synthesis and Growth of Triaquaglycinesulfatozinc (II), a New Semiorganic Nonlinear Optical Crystal. R. Sankar, C. M. Raghavan, M. Balaji, R. Mohan Kumar, and R. Jayavel, Crystal Growth & Design, 7 (2007) 348.

217. Bulk growth and characterization of semi organic nonlinear optical bis thiourea bismuth chloride single crystals (BTBC). R. Sankar, C.M. Raghavan. R. Jayavel., Crystal Growth & Design, 7 (2007) 501.

218. Synthesis and chelation properties of new polymeric ligand derived from 8-hydroxy-5-azoquinoline hydroxy benzene. Sankar, R., S. Vijayalakshmi, S. Subramanian, S. Rajagopan, and T. Kaliyappan. European Polymer Journal 43 (2007) 4639.

(2006)

219. Preparation and Characterization of ZnO Nano fibers by Electrospinning. R. Siddheswaran, R. Sankar, M. Ramesh babu, M. Rathnakumari, R. Jayavel, P. Murugakoothan, P. Sureshkumar, Cryst. Res. Tech. 5 (2006) 41.
220. **Investigation on thermal and electrical properties of Tri Glycine Sulpho Phosphate (TGSP) and L-Asparagine doped TGSP crystals**, M. Beatrice Margaret, **R. Sankar**, S. Kalainathan, R. Jayavel and T. Irusan, Cryst. Res. Tech., 6 (2006) 71.

221. **Growth and spectroscopy studies of Allyl thiourea mercury chloride ATMC crystal**, R. Siddheswaran, **R. Sankar**, M. Ramesh babu, M. Rathnakumari, R. Jayavel, P. Murugakoothan, P. Sureshkumar, Cryst. Res. Tech. 7 (2006) 71.

222. **Growth and characterization of ferroelectric (KFe(CN)₆) single crystals**, R. Kanagadurai, **R. Sankar**, G. Sivanesan, S. Srinivasan, Rajasekaran, and R. Jayavel., Cryst. Res. Technol. 41 (2006) 853.

223. **Nucleation kinetics and growth of Bis thiourea cadmium acetate single crystals**, **R. Sankar**, C.M. Raghavan, R. Jayavel Cryst. Res. Tech. 41(2006) 919.

224. **Growth and characterization of a new semi-organic nonlinear optical crystal L-Argininehydrocholrofluroide monohydrate (LAHClF)**. R. Siddheswaran, **R. Sankar**, M. Rathnakumari, R. Jayavel, P. Murugakoothan, P. Sureshkumar, Surface Review and Letters. 13 (2006) 803.

225. **Nucleation, growth and characterization studies of a nonlinear optical crystal tris allylthiourea cadmium chloride (ATCC)**. R. Siddheswaran, **R. Sankar**, M. Rathnakumari, R. Jayavel, P. Murugakoothan, P. Sureshkumar., Laser. Phy. Lett, 3 (2006) 588.

(2005-2004)

226. **Metastable zone width, induction period and interfacial energy of bis thiourea zinc acetate (BTZA)**, D. Jayalakshmi, **R. Sankar**, R. Jayavel, J. Kumar, J. Cryst. Growth. 276 (2005) 243.

227. **Growth, structural, optical and thermal studies of non-linear optical L-threonine single crystals**, G. Ramesh Kumar, S. Gokul Raj, **R. Sankar**, R. Mohan, S. Pandi, R. Jayavel, J.Cryst.Growth. 267 (2004) 213.