

PUBLICATIONS (* - corresponding author)

PATENT

- 1 **Vidur Raj**, “Harnessing electrical energy from the tribomagnetization in railways” - Application no - 597/DEL/2011

INVITED REVIEWS (*Invitations to Prof. Chennupati Jagadish*)

- 2 **Vidur Raj**,* Hark Hoe Tan, and Chennupati Jagadish, “Non-Epitaxial Carrier Selective Contacts for III-V Solar Cell”, *Applied Materials Today*, 2019, 100503. <https://doi.org/10.1016/j.apmt.2019.100503>.
- 3 **Vidur Raj**,* Hark Hoe Tan, and Chennupati Jagadish, “Axial vs. Radial Junction Nanowire Solar Cells”, *Asian Journal of Physics* [*Special Issue – Dedicated to 80th Birthday of Prof. Ajoy Ghatak*], 2019, 28 (7-9), 719-746. <http://asianjournalofphysics.in/content2/vol-28-2019/vol-28-nos-7-9?df=1>

BOOK CHAPTER

- 4 Monika Joshi, **Vidur Raj**, Paranuv Balaji & Ayushi Kaushik (2014) “Ag-ZnO nanocomposite for multi gas sensing application” *Physics of Semiconductor Devices*, Springer International Publishing, Part V, 453. DOI: 10.1007/978-3-319-03002-9_113. http://link.springer.com/chapter/10.1007%2F978-3-319-03002-9_113

FIRST AUTHOR PAPERS

- 5 **Vidur Raj**,* Fiacre Rougieux, Lan Fu, Hark Hoe Tan, and Chennupati Jagadish “Design of Ultrathin InP Solar Cell Using Carrier Selective Contacts”, *IEEE Journal of Photovoltaics*, <https://doi.org/10.1109/JPHOTOV.2019.2961615>.
- 6 **Vidur Raj**,* Kaushal Vora, Lan Fu, Hark Hoe Tan, and Chennupati Jagadish, “High Efficiency Solar Cells from Extremely Low Minority Carrier Lifetime Substrates Using Radial Junction Nanowire Architecture”, *ACS Nano*, 2019, 13 (10), 12015-12023. <https://doi.org/10.1021/acs.nano.9b06226>
- 7 **Vidur Raj**,* Teng Lu, Mark Lockrey, Rong Liu, Yun Liu, Hark Hoe Tan, and Chennupati Jagadish, “Introduction of TiO₂ in CuI for its Improved Performance as a p-type Transparent Conductor”, *ACS Appl. Mater. Interfaces*, 2019, 11, 27, 24254-24263 <https://doi.org/10.1021/acsami.9b05566>
- 8 **Vidur Raj**,* Lan Fu, Hark Hoe Tan, and Chennupati Jagadish. “Design Principles for Fabrication of InP-Based Radial Junction Nanowire Solar Cells Using an Electron Selective Contact”, *IEEE Journal of Photovoltaics*, 2019, 9 (4), 980-991. <https://doi.org/10.1109/JPHOTOV.2019.2911157>
- 9 **Vidur Raj**,* Tãmara Sibeles dos Santos, Fiacre Rougieux, Kaushal Vora, Mykhaylo Lysevych, Lan Fu, Sudha Mokkaleti, Hark Hoe Tan, and Chennupati Jagadish. “Indium Phosphide Based Solar Cell Using Ultra-Thin ZnO as an Electron Selective Layer.” *Journal of Physics D: Applied Physics*, 2018, 51 (39), 395301. <https://doi.org/10.1088/1361-6463/aad7e3>.
- 10 **Vidur Raj**, Amit Kumar Singh Chauhan and Govind Gupta (2015) “Growth kinetics of indium metal atoms on Si(1 1 2) surface” *Mater. Res. Bull.*, 2015, 72, 286-290. <http://dx.doi.org/10.1016/j.materresbull.2015.07.045>
- 11 **Vidur Raj**, Monika Joshi, and Pranuv Balaji “Ag grafted ZnO nanoplates for Photocatalytic applications” *Mater. Focus* 2014, 3, 385-391(7). <http://dx.doi.org/10.1166/mat.2014.1192>

CO-AUTHOR PAPERS

- 12 Mingkai Liu, Quanlong Yang, Ahmmed A. Rifat, **Vidur Raj**, Andrei Komar, Jianguang Han, Mohsen Rahmani, Haroldo T. Hattori, Dragomir Neshev, David A. Powell, and Ilya V. Shadrivov “Deeply subwavelength metasurface resonators for terahertz wavefront manipulation”, *Adv. Optical Mater.*, 2019, 1900736. <https://doi.org/10.1002/adom.201900736>
Contribution: I was responsible for large area EBL of the structures.
- 13 Shridhar Manjunath, Mingkai Liu, **Vidur Raj**, David A. Powell, Rifat A. Ahamed, Hoe Tan, Chennupati Jagadish, Ilya V. Shadrivov, and Mohsen Rahmani, “Dual-region resonant meander metamaterial”, *Advanced Optical Materials*, Accepted. <https://doi.org/10.1002/adom.201901658>
Contribution: I was responsible for structure fabrication and part-FDTD simulations.
- 14 Ghediya Prashant R., Tapas K. Chaudhuri, **Vidur Raj**, Dipankar Chugh, Kaushal Vora, Li Li, Hark Hoe Tan, and Chennupati Jagadish. “Direct-Coated Cu₂SnS₃ Films from Molecular Solution Inks for Solar Photovoltaics.” *Materials Science in Semiconductor Processing*, 2018, 88 (December), 120–26. <https://doi.org/10.1016/J.MSSP.2018.07.041>.
Contribution: I assisted in thin film deposition and characterization.
- 15 Vladislav Khayrudinov, Maxim Remennyi, **Vidur Raj**, Prokhor Alekseev, Boris Matveev, Harri Lipsanen, Tuomas Haggren, “Direct growth of light-emitting III–V nanowires on flexible plastic

substrates”, ACS Nano, 2020, 14, 6, 7484–7491. <https://doi.org/10.1021/acsnano.0c03184>.

Contribution: I was responsible for device fabrication.

- 16 Ghediya Prashant R., Tapas K. Chaudhuri, Vidur Raj, Dipankar Chugh, Kaushal Vora, Li Li, Hark Hoe Tan, and Chennupati Jagadish. “Surface analysis of Direct-Coated Cu₂SnS₃ Thin Films”, Journal of Electronic Materials, Accepted. <https://doi.org/10.1007/s11664-020-08380-8>.

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- 17 Shridhar Manjunath, Mingkai Liu, **Vidur Raj**, Ahmmed Aoni, David Powell, Hark H. Tan, Chennupati Jagadish, Ilya Shadrivov, and Mohsen Rahmani, “Meander metamaterials for THz spectroscopic applications”, Italian conference on optics and photonics (ICOP), June 9-11, 2020, Parma, Italy. (Oral)
- 18 **Vidur Raj**,* Kaushal Vora, Lan Fu, Hark Hoe Tan, and Chennupati Jagadish, “Radial Junction InP nanowire solar cells using an electron selective contact”, 8th ICONN, 9-13 Feb 2020, Brisbane, Australia. (Poster)
- 19 Marika Niihori, Sejeong Kim, Inseok Yang, Fanlu Zhang, **Vidur Raj**, Nikita Gagrani, Ziyuan Li, Hark Hoe Tan, Chennupati Jagadish, and Lan Fu, “Investigation of light emission properties of nanowire array light emitting diodes”, ICONN, 9-13 Feb 2020, Brisbane, Australia. (Poster)
- 20 **Vidur Raj**,* Kaushal Vora, Lily Li, Lan Fu, Hark Hoe Tan and Chennupati Jagadish, “Electron selective contact for high efficiency core-shell nanowire solar cell”, Compound Semiconductors Week-2019 (CSW-2019), May19 - May 23, Nara, Japan. <https://doi.org/10.1109/ICIPRM.2019.8819194>. (Oral)
- 21 Shridhar Manjunath, Mingkai Liu, **Vidur Raj**, Ahmmed Aoni, David Powell, Hark H. Tan, Chennupati Jagadish, Ilya Shadrivov, and Mohsen Rahmani, “Deep-subwavelength metamaterial resonators operating at dual frequency regions”, ANZCOP, 2019, 7-12 December, Melbourne, Australia. <https://doi.org/10.1117/12.2538398>. (Oral)
- 22 **Vidur Raj**,* Mark Lockrey, Rong Liu, Hark Hoe Tan, and Chennupati Jagadish. (2018). “CuI-TiO₂ Composite Thin Film for Flexible Electronic Applications”, 2018, COMMAD, AIP Congress, December 9 -13, Perth, Australia. <https://doi.org/10.1109/COMMAD.2018.8715246>. (Oral)
- 23 Shridhar Manjunath, Mingkai Liu, **Vidur Raj**, Ahmmed Aoni, David Powell, Hark H. Tan, Chennupati Jagadish, Ilya Shadrivov, and Mohsen Rahmani, “Polarisation and angle independent meander line metamaterial resonator with dual region resonance”, IONS KOALA, 4-8 December, 2018, Sydney, Australia. <https://doi.org/10.1117/12.2538398>. (Oral)
- 24 **Vidur Raj**,* Hark Hoe Tan, and Chennupati Jagadish. (2018) “Optoelectronic Simulation of ITO/Oxide/GaAs Nanowire for Application in Solar Cells”, ICONN, 29 JAN - 2 FEB 2018, Sydney, Australia. (Oral)
- 25 **Vidur Raj**,* Tâmara Sibeles dos Santos, Kaushal Vora, Mykhaylo Lysevych, Lan Fu, Sudha Mokkaapati, Hark Hoe Tan, and Chennupati Jagadish. (2016) “ZnO-InP Solar Cells without p-n junction”, COMMAD 12-14 December, Sydney, Australia (Oral)
- 26 **Vidur Raj**, R. P. Singh, Monika Joshi (2013) “Fe₂O₃ –CNT nanocomposite for binary gas detection”. 13th International conference on magnetic fluids New Delhi India, January 7-11, 2013. (Poster)
- 27 Monika Joshi, **Vidur Raj** & Singh R.P. (2013) “Multi gas detection using PVA-CNT nanocomposite”. 17th National seminar on physics and technology of sensors, Jamia Millia Islamia, New Delhi, India, March 11 – 13, 2013. (Oral)
- 28 Monika Joshi, **Vidur Raj**, Pranav Balaji (2013) “Synthesis and Characterization of ZnO Nanoflowers for Gas Sensing Application”, Poster presentation at ICRTMD’13 Amity University, Noida. (Poster)