Journal Papers

1: Osama Jalil, Shahzad Ahmad, Xinke Liu, Kah Wee Ang, Usman Younis. Towards theoretical framework for probing the accuracy limit of electronic transport properties of $SnSe_2$ using many-body calculations. EPL (Europhysics Letters) 2020.

2: Osama Jalil, Shahzad Ahmad, Kah Wee Ang, and Usman Younis. Behaviour of induced states of substitutional and adatom impurity doping on electronic transport properties of single-layer black phosphorus. Physica E: Low-dimensional Systems and Nanostructures 2021.

3: Shahzad Ahmad, M Zubair, **Osama Jalil**, MQ Mehmood, Usman Younis, Xinke Liu, Kah Wee Ang, LK Ang. Generalized scaling law for exciton binding energy in two-dimensional materials. Physical Review Applied 2020.

4: Shahzad Ahmad, M Zubair, **Osama Jalil**, Kah Wee Ang, and Usman Younis. Analytical Calculation of Exciton Binding Energy, Quasi-Particle Band Gap and Optical Gap in Strained Mono-layer MoS_2. Journal of Electronic Materials 2021.

5: Shahzad Ahmad, M Zubair, **Osama Jalil**, and Usman Younis. A difference method with semi-analytical approach for achieving accuracy in optical gaps of 2D materials using exciton model in fractional space. Japanese Journal of Applied Physics 2021.

Conference Papers

1: Osama Jalil, Shahzad Ahmad, Kah Wee Ang, and Usman Younis. Modulating the electronic transport properties of single-layer WSe_2 using zero-dimensional defect engineering. SPIE Photonics West 2021.

2: Osama Jalil, Shahzad Ahmad, Abdullah Nafis Khan, Kah Wee Ang, and Usman Younis. Enhanced thermoelectric properties of 2D $W_xMo_{(1-x)}S_2$ alloys based vertical heterostructures for energy storage applications. SPIE Defense and Commercial Sensing 2021.

3: Osama Jalil, Shahzad Ahmad, Asif Bilal, Usman Younis, Xinke Liu, Kah Wee Ang, Stavros Iezekiel. First-principles method based electronic transport properties of two-dimensional $SnSe_{2(1-x)}X_{2x}$ alloys. SPIE Photonics Europe 2020.

4: Asif Bilal, **Osama Jalil**, Shahzad Ahmad, Abdullah Nafis Khan, Usman Younis. Towards Cavity Enhanced Photo-detection in Al-doped BP Integrated with 2D Photonic Crystal and Waveguide for Mid-IR Wavelengths. SPIE Photonics West 2020.

5: Abdullah Nafis Khan, Asif Bilal, **Osama Jalil**, Muhammad Zubair, Usman Younis. Towards high-Q 1D photonic crystal waveguide resonator in SOI for mid-infrared applications. SPIE Photonics West 2021.

6: Asif Bilal, Abdullah Nafis Khan, **Osama Jalil**, Shahzad Ahmad, Usman Younis, Stavros Iezekiel. Port analysis using S-matrix for 2D metasurface waveguide coupler in mid-IR application. SPIE Photonics Europe 2020.