



Dr. Anwar Ali Khan

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Education:

Ph. D <i>Quantum Optics</i> (December, 2021)	University of Malakand, Chakdara Dir (Lower) KP, Pakistan. Research: COMSATS University, Islamabad, Pakistan.
M.Phil <i>Quantum Physics</i> (April, 2015)	University of Malakand, Chakdara Dir (Lower) KP, Pakistan.
M.Sc <i>Physics</i> (October, 2008)	Federal Urdu University of Arts, Science and Technology Karachi, Pakistan.
B.Sc (<i>Physics, Mathematics</i>) (April, 2006)	University of Malakand, Chakdara Dir (Lower) KP, Pakistan.

Ph.D. Dissertation Title:

Coherent Control of Goos Hänchen Shift in Dispersive Media and Optomechanical System.

M. Phil Thesis Title:

Observable Effects of Kerr Nonlinearity on Light Propagation in a Chiral Medium.

Academic Experience:

- Assistant Professor in the Department of Physics, University of Malakand
(December, 2022 to **till date**).
- Staff Proctor, University of Malakand
(May, 2017-August, 2022).
(January, 2024 to **till date**).
- Focal Person, Content Management System (CMS), Physics department, University of Malakand.
(March, 2024 to **till date**).
- Focal Person, Prime Minister Laptop scheme, Physics department, University of Malakand.
(August, 2023 to **till date**).
- Lecturer in the Department of Physics, University of Malakand.
(September, 2012-August, 2022).
- Visiting faculty in Physics Department, Govt. Degree College, Kabal Swat.
(2010-2011).
- Lecturer in Physics Tipu College Kabal Swat.
(2008-2012).

Approved Supervisor:

HEC Approved PhD Supervisor

(November, 2023 to **November, 2026**).

Research interests:

The theoretical studies of the optical properties through dispersive medium and optomechanical systems. The propagating wave in the medium may be considered as plane waves, Gaussian light, Laguerre-Gaussian, partially coherent light, vortex light and structured light.

Research Publications:

- 1) The Goos-Hänchen shift analysis in optical lattices under the parity-time symmetry
F. Badshah, H. Malik, [A. A. Khan](#), H. Huang, Ziauddin, *Phys. Scr.* 98, 085104 (2023)
Impact Factor: **2.487**
- 2) Transparency in a Laguerre-Gaussian photo-rotational cavity, Ziauddin, [A. A. Khan](#), A. Yar, M. Abbas, *Eur. Phys. J. Plus* 137, 1203 (2022)
Impact Factor: **3.911**
- 3) Influence of orbital angular momentum of vortex light on lateral shift behavior, S. Ahmad, M. Abbas, M. Awais, [A. A. Khan](#) and Ziauddin, *J. Opt.* 23, 115402 (2021)
Impact Factor: **2.516**

- 4) Enhancement of the Goos-Hänchen shift in an optomechanical cavity via Casimir force
Ghaisuddin, M. Abbas, [A. A. Khan](#), H. Ali and Ziauddin, **Phys. Scr.** 96, 125104 (2021)
Impact Factor: **2.487**
- 5) Enhanced Cross-Kerr nonlinearity induced PT -symmetry in optical lattices, R. U. Din, X.
Zeng, I. Ahmad, X-F. Yang, [A. A. Khan](#) and G-Q. Ge, **J. Opt.** 23, 025401 (2021)
Impact Factor: **2.516**
- 6) Atomic localization via superposition of three standing wave fields in a four-level tripod
atomic configuration, A. Hussain, M. Izhar, M. A. Uddin, M. Wahab, [A. A. Khan](#),
and M. R. Khan, **Eng. Appl. Sci. Lett.** 04, 69-76 (2021)
- 7) Investigation of the Goos-Hänchen shift in an optomechanical cavity via quantum control
[A. A. Khan](#), M. Abbas, Y-L. Chaung, I. Ahmed, and Ziauddin, **Phys. Rev. A** 102, 053718
(2020)
Impact Factor: **3.140**
- 8) Solitary waves of surface plasmon polariton via phase shifts under Doppler broadening
and Kerr nonlinearity, S. Ahmad, A. Ahmad, B. A. Bacha, [A. A. Khan](#) & M. S. Abdul
Jabar, **Eur. Phys. J. Plus** 132, 506 (2017)
Impact Factor: **3.911**
- 9) Optical activity via Kerr nonlinearity in a spinning chiral medium, [A.A. Khan](#), B.A.
Bacha, R.A. Khan, **Phys. Lett. A** 380, 3724-3731 (2016)
Impact Factor: **2.654**

- 10) Conductivity-dependent surface Plasmon polariton propagation, A. Ali, B. A. Bacha, M. S. A. Jabar, [A.A. Khan](#), R. Uddin, I. Ahmad, *Laser Phys.* 26, 095204 (2016)
Impact Factor: **1.366**
- 11) Spectral Hole Burning via Kerr Nonlinearity, [A.A. Khan](#), M. S. A. Jabar, M. Jalaluddin, B. A. Bacha, I. Ahmad, *Commun. Theor. Phys.* 64, 473–478 (2015)
Impact Factor: **1.968**
- 12) Superposition of stationary wave fields via atomic microscopy, Hizbullah, [A.A. Khan](#), N. Khan, I. Ahmad, B. A. Bacha, *Commun. Theor. Phys.* 63, 340-346 (2015)
Impact Factor: **1.968**
- 13) Coherent control of polarization state rotation via Doppler broadening and Kerr nonlinearity in a spinning fast light medium, H. Rahman, Hizbullah, M. S. A. Jabar, [A.A. Khan](#), I. Ahmad, B. A. Bacha, *Laser Phys.* 24, 115404 (2014)
Impact Factor: **1.366**

Workshops, Seminars, Training & Awards:

- Training workshop on “Capacity Building Program for Faculty Members” October (09-12), 2023, Organized by the Directorate of Quality Enhancement Cell, University of Malakand.
- Workshop on “Teaching and Talking of Peace in the Vulnerable Region of Pakistan” October (13-14), 2023, Organized by the University of Malakand in collaboration with USEFP (The United States Educational Foundation in Pakistan).

- National Workshop on Materials Modeling and Simulations as Organizer, August (15-18), 2023, Center for Computational Materials Science University of Malakand.
- Quantum Science Summer School as Organizer, July (17-21), 2023, Center for Computational Materials Science University of Malakand.
- Award on 1st international Conference and 4th international Workshop “Material Modeling and Simulation” as Organizer, October (24-26), 2022, University of Malakand.
- Training of Presiding Officers Organized by the Election Commission of Pakistan for the Local General Elections, March (09-10), 2022.
- 2nd National Conference on Mathematical Sciences as Organizer, December (06-07) 2021, University of Malakand.
- Best Staff Proctor Award, 2017-2018, University of Malakand.
- First National Conference on Advances in Physics as Organizer, November (06-07) 2017, Department of Physics, University of Malakand.
- TUD-CIIT International mini school on Quantum and Ultrafast Optics: Theory and Experiment, October (04-06), 2017, COMSATS Islamabad.
- One week workshop on “English for Academic Purposes Under Transforming English Language Skills” April (03-07), 2017, University of Malakand in collaboration with Higher Education Commission.
- One day conference on “International Year of Light” November 24, 2015, University of Malakand in collaboration with National Institute for LASERS and Optronics (NILOP).

- **Indigenous On-Campus Training Workshop on “Administration & IT Skills”** September (15-16), 2015, Organized by the Directorate of Quality Enhancement Cell University of Malakand.
- **1st National Conference on Mathematical Sciences 2014**, University of Malakand.
- **3rd International Workshop on Material Modeling and Simulation 2013**, University of Malakand in collaboration with the Society of Materials Science and Engineering.
- **Training of Presiding Officers Organized by the Election Commission of Pakistan for the General Elections 2013.**

Programming & Computer Skills:

Mathematica, Latex, MS Office and Coral Draw.

Languages:

- English
- Urdu
- Pashto

I'm quite interested in learning new languages.

Postal Address:

New Academic block, 2nd floor, Office no: 152W, Physics Department, University of Malakand Dir Lower, KP, Pakistan.

References:

Prof. Dr. Iftikhar Ahmad

Chairman

Department of Physics,
University of Malakand, Pakistan.

Ex. Vice Chancellor

Gomal University, D.I. Khan, Pakistan.

Ex. Vice Chancellor,

Abbottabad University of Science & Technology,
Abbottabad, Pakistan.

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Prof. Dr. Rahmat Ali Khan

Vice Chancellor

Kotly University,
Azad Jammu & Kashmir, Pakistan.

Ex. Vice Chancellor

Shaheed Benazir Bhutto University,
Sheringal, Pakistan.

Ex. Vice Chancellor

University of Malakand, Pakistan.

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Dr. Ziauddin

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Quantum Optics Lab,

COMSATS University,

Islamabad, Pakistan.

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