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Kişisel Bilgiler

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Araştırma Alanları

Teorik Yüksek Enerji Fiziği Çalışmaları, Kuantum mekaniği, alan teorileri ve özel relativite

Akademik Unvanlar / Görevler

Prof. Dr., TED Üniversitesi, Fen Edebiyat Fakültesi, Temel Bilimler Birimi, 2022 - Devam Ediyor

Verdiği Dersler

Bilimin Temelleri ve Ufukları, Lisans, 2022 - 2023

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Hamiltonian, geometric momentum and force operators for a spin zero particle on a curve: physical approach**
Shikakhwa M., Chair N.
European Physical Journal Plus, cilt.139, sa.6, 2024 (SCI-Expanded)
- II. **Constructing Hermitian Hamiltonians for spin zero neutral and charged particles on a curved surface: physical approach**
Shikakhwa M., Chair N.
European Physical Journal Plus, cilt.137, sa.5, 2022 (SCI-Expanded)
- III. **The quantum centripetal force on a free particle confined to the surface of a sphere and a cylinder**
Shikakhwa M.
Physica E: Low-Dimensional Systems and Nanostructures, cilt.108, ss.249-252, 2019 (SCI-Expanded)
- IV. **Ring symmetry in electric potential calculation extended to discs and cylinders**
Charyyev A., Shikakhwa M.
European Journal of Physics, cilt.39, sa.6, 2018 (SCI-Expanded)
- V. **Symmetric Surface Momentum and Centripetal Force for a Particle on a Curved Surface**
Shikakhwa M.
Communications in Theoretical Physics, cilt.70, sa.3, ss.263-267, 2018 (SCI-Expanded)
- VI. **Spin force and torque in non-relativistic Dirac oscillator on a sphere**
Shikakhwa M.
Physics Letters, Section A: General, Atomic and Solid State Physics, cilt.382, sa.12, ss.855-859, 2018 (SCI-Expanded)

- VII. **Pure gauge spin-orbit couplings**
Shikakhwa M.
European Physical Journal Plus, cilt.132, sa.1, 2017 (SCI-Expanded)
- VIII. **Hermitian and gauge-covariant Hamiltonians for a particle in a magnetic field on cylindrical and spherical surfaces**
Shikakhwa M., Chair N.
European Journal of Physics, cilt.38, sa.1, 2017 (SCI-Expanded)
- IX. **Hamiltonian for a particle in a magnetic field on a curved surface in orthogonal curvilinear coordinates**
Shikakhwa M., Chair N.
Physics Letters, Section A: General, Atomic and Solid State Physics, cilt.380, sa.36, ss.2876-2880, 2016 (SCI-Expanded)
- X. **Hermitian spin-orbit Hamiltonians on a surface in orthogonal curvilinear coordinates: A new practical approach**
Shikakhwa M., Chair N.
Physics Letters, Section A: General, Atomic and Solid State Physics, cilt.380, sa.22-23, ss.1985-1989, 2016 (SCI-Expanded)
- XI. **SU(2) symmetry and conservation of helicity for a Dirac particle in a static magnetic field at first order**
Shikakhwa M., Albaid A.
Revista Mexicana de Fisica, cilt.63, sa.5, ss.474-480, 2014 (SCI-Expanded)
- XII. **Gauge covariance and spin-current conservation in the gauge-field formulation of systems with spinorbit coupling**
Shikakhwa M., TURGUT S., Pak N.
Journal of Physics A: Mathematical and Theoretical, cilt.45, sa.10, 2012 (SCI-Expanded)
- XIII. **The $\nabla \rightarrow \cdot e \rightarrow$ term does not change the Aharonov-Casher scattering cross section**
Shikakhwa M., Al-Qaq E.
Journal of Physics A: Mathematical and Theoretical, cilt.43, sa.35, 2010 (SCI-Expanded)
- XIV. **The aharonov-casher scattering: The effect of the $\nabla \cdot e$ term**
Al-Qaq E., Shikakhwa M.
Modern Physics Letters A, cilt.25, sa.18, ss.1531-1540, 2010 (SCI-Expanded)
- XV. **Effective polar potential in the central force Schrödinger equation**
Shikakhwa M., Mustafa M.
European Journal of Physics, cilt.31, sa.1, ss.151-156, 2010 (SCI-Expanded)
- XVI. **The spin interaction of a dirac particle in an aharonov-bohm potential in first order scattering**
Albeed A., Shikakhwa M.
International Journal of Theoretical Physics, cilt.47, sa.10, ss.2748-2753, 2008 (SCI-Expanded)
- XVII. **Dirac particle in an Aharonov-Bohm potential: The structure of the first order S-matrix**
Shikakhwa M.
International Journal of Theoretical Physics, cilt.46, sa.2, ss.405-416, 2007 (SCI-Expanded)
- XVIII. **Perturbative study of bremsstrahlung and pair-production by spin-1/2 particles in the Aharonov-Bohm potential**
Al-Binni U., Shikakhwa M.
International Journal of Theoretical Physics, cilt.44, sa.9, ss.1399-1412, 2005 (SCI-Expanded)
- XIX. **Scalar pair production in the Aharonov-Bohm potential**
Shahin G., Shikakhwa M.
Journal of Physics A: Mathematical and General, cilt.38, sa.3, ss.759-772, 2005 (SCI-Expanded)
- XX. **Partial wave analysis of the first order Born amplitude of a Dirac particle in an Aharonov-Bohm potential**
Shikakhwa M., Pak N.
Physical Review D - Particles, Fields, Gravitation and Cosmology, cilt.67, sa.10, 2003 (SCI-Expanded)

XXI. Non-relativistic fermions interacting through the Chern-Simons field and the Aharonov-Bohm scattering amplitude

Fainberg V., Pak N., Shikakhwa M.

Journal of Physics A: Mathematical and General, cilt.31, sa.15, ss.3531-3543, 1998 (SCI-Expanded)

XXII. The path integral quantization and the construction of the S-matrix operator in the Abelian and non-Abelian Chern-Simons theories

Fainberg V., Pak N., Shikakhwa M.

Journal of Physics A: Mathematical and General, cilt.30, sa.11, ss.3947-3965, 1997 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

I. The Born scattering amplitude of a non-relativistic spin one-half particle in an Aharonov-Bohm potential

Romia Y., Shikakhwa M.

Turkish Journal of Physics, cilt.28, sa.2, ss.73-79, 2004 (Scopus)

II. Topological unitarity identities in Chern-Simons theories

Fainberg V., Shikakhwa M.

Physical Review D - Particles, Fields, Gravitation and Cosmology, cilt.53, sa.10, ss.5765-5770, 1996 (Scopus)