M. Apostol

Papers in Journal of Theoretical Physics

1 On the low-dimensional solids and their melting
M. Apostol
(e-print 9603108, cond-mat@xxx.lanl.gov)

2 A few remarks on the Coulomb potential of the ionic lattices
M. Apostol

3 Elastic waves in a uniaxial solid
M. Apostol

4 On the critical condition of fission of a liquid droplet
M. Apostol

5 On a structural distortion effect in the NMR-spectrum of alkali fullerides
M. Apostol

6 On a Thomas-Fermi model of "hollow" atom
M. Apostol
(e-print 9607002, chem-ph@xxx.lanl.gov)

7 On the structural distortion of the alkali NMR spectrum in Rb3C60 and K3C60
M. Apostol

8 On the energy spectrum of the C60 fullerene anion
M. Apostol
(e-print 9603150, chem-phys@xxx.lanl.gov)

9 On metallic clusters squeezed in atomic cages
M. Apostol
(e-print 9603009, mtrl-th (cond-mat)@xxx.lanl.gov)

10 Some remarks on the two-electron atom
M. Apostol
(e-print 9603008, atom-ph@xxx.lanl.gov)

11 On defects in solids
M. Apostol

12 Entropic "sound" in the atmosphere
B.-F. Apostol, S. Stefan and M. Apostol
J. Theor. Phys. 12 (1996) (e-print 9606001, ao-sci@xxx.lanl.gov)

13 On a non-linear diffusion equation describing clouds and wreaths of smoke
B.-F. Apostol, S. Stefan and M. Apostol

On the empirical foundation of probability
M. Apostol

On certain dimensionality effects in the ideal Bose and Fermi gases
M. Apostol

Specific heat of charged fermions in magnetic field
M. Apostol

Two-dimensional charged bosons in magnetic field
M. Apostol

Fermions in a slab
M. Apostol

Error estimation for the magnetic field in the accelerator magnets
M. Apostol

A new derivation of the WKB approximation
B.-F. Apostol

On the theory of war between "vicious" civilizations
M. Apostol

eta-superconductivity is an unstable pi-superconductivity
M. Apostol

On the Bethe ansatz
M. Apostol

A semi-infinite solid
M. Apostol

On the diffusion equation
M. Apostol

On the critical temperature of the Ising ferromagnets
M. Apostol

On the spherical model of a ferromagnet
M. Apostol

On the Bose-Einstein condensation
M. Apostol

On the impossibility of the phase transitions
M. Apostol

2
Replacing sums by integrals
M. Apostol

On a mean-field theory of the Ising ferromagnet
M. Apostol

On the Fermi sea-displacement operators as exact Bose operators
L. C. Cune and M. Apostol

On the "bosonization" in two and three dimensions
L. C. Cune and M. Apostol

On the Fermi sea-displacement operators as "exact Bose" operators
L. C. Cune and M. Apostol

Fermi liquid theory
M. Apostol

The basis of the Fermi liquid theory
M. Apostol

On the "bosonization" in two and three dimensions
L. C. Cune and M. Apostol

M. Apostol

Integrable Systems, Mathematical Physics and Statistical Mechanics
M. Apostol

On the Ostwald ripening process
F. Despa and M. Apostol

Quasi-classical atoms, ions and atomic clusters
M. Apostol

On the self-consistent field of the atoms and Hartree's equations
M. Apostol

Building the matter: molecules and chemical bond
M. Apostol

Lowest excited electron states in a large atomic cluster
M. Apostol
45 On the atomic binding energy in the Thomas-Fermi model
M. Apostol
46 Comment on "Breakdown of Bohr's correspondence principle"
M. Apostol
47 Comment on "Breakdown of Bohr's correspondence principle"
M. Apostol
48 Comment on "Breakdown of Bohr's correspondence principle"
M. Apostol
49 Universal geometric forms and magic numbers for homo-atomic metallic
clusters
L. C. Cune and M. Apostol
50 Metallic clusters
L. C. Cune and M. Apostol
51 Iron-ethylene cluster Fe_{13}(C_{2}H_{2})_{6}
L. C. Cune and M. Apostol
52 Some notes on Comment on "Breakdown of Bohr's correspondence principle"
M. Apostol
53 Ionization potential for metallic clusters
L. C. Cune and M. Apostol
54 On the atomic binding energy in the Thomas-Fermi model
L. C. Cune and M. Apostol
55 Effective hamiltonian for the molecular binding
M. Apostol
56 Metallic cohesion
M. Apostol
57 On superluminal effects
L. C. Cune and M. Apostol
58 Research Project on Chemical Bond and Matter Aggregation
M. Apostol
59 Ultrafast thermoelectric conduction
M. Apostol
60 The Chemical Bond in Condensed Matter
<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Authors</th>
<th>Journal</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>Some remarks on the thermoelements' &quot;figure of merit&quot;</td>
<td>M. Apostol</td>
<td>J. Theor. Phys.</td>
<td>2001</td>
</tr>
<tr>
<td>73</td>
<td>On quantal trajectories and chemical reactivity</td>
<td>M. Apostol</td>
<td>J. Theor. Phys.</td>
<td>2001</td>
</tr>
<tr>
<td>74</td>
<td>On the rate of the chemical reactions and the teleportation of the wavepackets</td>
<td>M. Apostol</td>
<td>J. Theor. Phys.</td>
<td>2001</td>
</tr>
</tbody>
</table>
77 Metallic clusters deposited on surfaces
   L. C. Cune and M. Apostol
78 Atomic clusters and nanostructures
   L. C. Cune and M. Apostol
79 Metallic clusters deposited on surfaces. Puszczykowo Talk 2002
   M. Apostol
80 A critical point theory of the earthquakes
   B. F. Apostol and M. Apostol
81 Transferring Power to a Resistive External Circuit in a Pulsed
   Thermoelectric Conduction
   M. Apostol
82 Metallic Clusters deposited on surfaces
   L. C. Cune and M. Apostol
83 Amplification factors in oscillatory motion
   B. F. Apostol and M. Apostol
84 Opening talk on the Course of Theoretical Physics, February 6, 2003
   M. Apostol
85 On a non-linear wave equation in elasticity
   B. F. Apostol
86 On the cubic anharmonic oscillator
   B. F. Apostol
87 On linear anharmonic oscillators and self-consistent harmonic approximation
   M. Apostol
88 Advanced Materials
   M. Apostol
89 On a non-linear wave equation in elasticity
   B. F. Apostol
   M. Apostol
91 A pulse thermoelectric machine
   M. Apostol
92 Einstein's Physics (Lecture two of the Course of Theoretical Physics)
M. Apostol

93 On parametric excitations of magnetization under electric flows
L. C. Cune and M. Apostol

94 On superfluid spectrum of He
L. C. Cune and M. Apostol

95 An introduction to theoretical seismology
B.-F Apostol and M. Apostol

96 A few Nanocomments on NanoScience and NanoTechnology
M Apostol

97 Science and Computations (Lecture three of the Course of Theoretical Physics)
M Apostol

98 On probabilities (Lecture four of the Course of Theoretical Physics)
M Apostol

99 Power-law distributions and avalanche phenomena
M Apostol

100 On distributions with isolated points and a condensation phenomenon
M Apostol

101 “Equivalent circuits” for pulse-operating thermoelements
M Apostol and L. C. Cune

102 Euler's transform and a generalized Omori's law
B. F Apostol

103 Euler's transform and a generalized Omori's law
B. F Apostol

104 Generalized Omori's law and a self-generating process
B. F Apostol

105 A model of seismic focus and related statistical distributions of earthquakes
B. F Apostol

106 Omori's law for seismic foreshocks and aftershocks
B. F Apostol

107 A Bayesian theory for seismic foreshocks and aftershocks
B F Apostol
108 A model of seismic focus and related statistical distributions of earthquakes
B F Apostol
109 Principles of earthquake forecasting. Short-term prediction. Application to
Vrancea, Romania
apoma Laboratory
110 Short-term seismic activity. Next-Earthquake Time-Magnitude Distributions
apoma Laboratory
111 Scaling and universal power laws
apoma laboratory
112 Scaling and universal temporal distribution of nearest-neighbours pairs of
earthquake
apoam Laboratory
114 Kepler's problem
M Apostol
115 A three-body problem: the Sun, the Earth and the Moon
M Apostol
116 A peculiar motion in Coulomb potential and a new route of quantizing the
Hydrogen atom
M Apostol
117 Moon's problem. A three-body problem. (Lecture five of the Course of
Theoretical Physics)
M Apostol
118 Theory of perturbation for a three-body gravitational bound-state
M Apostol
119 Scaling and universal power-laws in time series of seismic events
apoama Laboratory
120 Moon's problem. (A three-body problem). An investigation into
“intractability” and “uncomputability” in Theoretical Physics
M Apostol
121 Principles of Earthquake Forecasting. Short-term prediction. Application to
Vrancea
apoama Laboratory
122 Hadronization of the quark-gluon plasma
apoma Laboratory

123 The condensation of matter. A model of phase transition of the first kind.
M Apostol

124 On the thermodynamics of classical liquids
M Apostol

125 On the thermodynamics of liquids
M Apostol

126 On the thermoconductivity of liquids, their fluctuations, viscosity and diffusion coefficient
M Apostol

127 On the van der Waals equation
L C Cune and M Apostol

128 Elastic scattering in short-range potentials (Lecture six of the Course of Theoretical Physics)
M Apostol

129 Elastic scattering in short-range potentials
M Apostol

130 Bound states in short-range potentials
M Apostol

131 Coulomb scattering
M Apostol

132 Nuclear cohesion. Weizsacker mass formula and statistical equilibrium in atomic nuclei
M Apostol

133 Inelastic collisions
M Apostol

134 On composite particles in relativistic mechanics, asymptotic freedom and nuclear forces
M Apostol

135 Fluids, fluid vortices and the Theory of Electricity and Magnetism (Lecture seven of the Course of Theoretical Physics)
M Apostol

136 On some experimental observations of quantal beats in positronium two-
gamma annihilation in magnetic field
M Apostol

On a possible coupling between ortho- and parapositrionium
M Apostol

On the effect of the magnetic interactions on the gamma disintegration of the orthopositronium
M Apostol

Weber's coherent scattering and neutrino detection
M Apostol

Quantal transitions by change of parameters and in non-inertial motion
(Lecture eight of the Course of Theoretical Physics)
M Apostol

Twins paradox
M Apostol

Quantal transitions by change of parameters and in non-inertial motion
M Apostol

A few notes on the theory of motion (Lecture nine of the Course of Theoretical Physics)
M Apostol

Another note on relativistic bound states and composite paarticles
M Apostol

Weather dynamics
S Talpos and M Apostol

On the Yang-Lee theory of condensation and phase transitions
M Apostol

The condensation of matter. A model of phase transition of the first kind
M Apostol

On the thermodynamics of liquids
M Apostol

On the gas-liquid transition
M Apostol

Covariance, curved space, motion and quantization (Lecture ten of the Course
Hadronization of the quark-gluon plasma
M Apostol

The many-body theory. Its logic along the years (dedicated to the memory of O. Dumitrescu)
M Apostol

A short overview of Physics (Lecture eleven of the Course of Theoretical Physics)
M Apostol

Elementary comments on unitary transformations
M Apostol

Magnetostatic modes excited by spin-transfer torques. The case of a spin valve
M Apostol

Resonance of the surface waves. The H/V ratio
B F Apostol

Waves with defects
M Apostol

A power law spectral line
M Apostol

Electrical conductivity for localized electrons
M Apostol

A new derivation of some properties of the orbital motion
M Apostol

Pulsed thermoelectric machine
M Apostol

On some diffraction problems for a scalar wave
M Apostol

Elastic waves on a surface with irregularities
B F Apostol

On high electric and magnetic pulses
M Apostol and G. Vacca
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
<th>Journal</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>172</td>
<td>d-wave in high-Tc superconductivity</td>
<td>M Apostol</td>
<td>J. Theor. Phys.</td>
<td>2008</td>
</tr>
</tbody>
</table>
Elastic waves in a semi-infinite body
B F Apostol

The effect of inhomogeneities on the propagation of elastic waves in isotropic bodies
B F Apostol

Plasmons, polaritons and diffraction of the electromagnetic field in cylindrical geometries
M Apostol and G Vaman

Plasmons and diffraction for a circular aperture and a circular disk
M Apostol

Elastic waves produced in a semi-infinite body by localized external forces
B F Apostol

On the trajectories of the seismic rays
C Ciucu

Polaritonic pulses of laser transported electrons
M Apostol and M Ganciu

Relativistic polaritons: on plasma electrons accelerated by laser pulses
M Apostol

On a lasing effect controlled by high external electromagnetic fields
M Apostol and M Ganciu

Coherent polarization driven by external electromagnetic fields
M Apostol and M Ganciu

On the current theory of lasers
M Apostol

On the classical interaction of matter with electromagnetic radiation
M Apostol

Classical interaction of electromagnetic radiation with two-level polarizable matter
M Apostol

Dynamics of electron-positron pairs in a vacuum polarized by an external field
M Apostol
194 Coherent X- and gamma rays from Compton (Thomson) backscattering by a polaritonic pulse
M Apostol and M Ganciu

195 Polaritonic pulse and coherent X- and gamma rays from Compton (Thomson) backscattering
M Apostol and M Ganciu

196 Coherent X- and gamma rays from Compton (Thomson) backscattering by a polaritonic pulse
M Apostol and M Ganciu

197 Magic pairs and structural transitions in binary metallic clusters
L C Cune

198 Non-inertial electromagnetic effects in matter. Gyromagnetic effect
M Apostol

199 van der Waals-London electromagnetic forces involving spherical bodies
M Apostol

200 The electromagnetic force (van der Waals-London-Casimir force) for spheres, point-like bodies and a half-space
M Apostol

201 The electromagnetic field in matter
M Apostol

202 The electromagnetic field of linear, or circular, antennas. The dipole approximation
M Apostol

203 Elastic waves in a solid with a rough surface
B F Apostol

204 Scattering of longitudinal waves by a rough surface
B F Apostol
J. Theor. Phys. 204 (2011)

205 Scattering of longitudinal waves (sound) by small inhomogeneities in a fluid
B F Apostol

206 On the molecular forces acting between macroscopic bodies
M Apostol

207 On the molecular forces acting between macroscopic bodies
M Apostol

208 Electromagnetic reflection and efraction for a semi-infinite solid with a rough surface
B F Apostol  

209 Antennas and fields  
M Apostol  

210 Dynamics of laser pulses in plasma  
M Apostol  

211 Molecular forces acting between macroscopic bodies  
M Apostol  

212 Propagation of electromagnetic pulses through the surface of dispersive bodies  
M Apostol  

213 Reading Brillouin  
M Apostol  

214 Coupled nanoplasmons  
M Apostol, S Ilie, A Petrut, M Savu and S Toba  

215 Electromagnetic field in matter. Surface enhanced Raman spectroscopy  
M Apostol, S Ilie, A Petrut, M Savu and S Toba  

216 A resonant coupling of a localized harmonic oscillator to an elastic medium  
B F Apostol  

217 On the allosteric and related kinetics  
M Apostol  

218 Finite chains  
M Apostol  

219 Electronic edge states in graphene sheets  
Oana-Ancuta Dobrescu and M Apostol  

220 Some relativistic notes  
M Apostol  

221 On the frequency shift of piezoelectric sensors and associated damping of the signal  
B F Apostol  

222 On the phase diagram of Quantum Chromodynamics  
M Apostol  

223 Coupling of (ultra-) relativistic atomic nuceli with photons  
M Apostol and M Ganciu
QCD
M Apostol


On the damping coefficient of oscillators and waves
B F Apostol


A note on the time evolution of the waves
B F Apostol


Quasi-classical dynamics in condensed matter
M Apostol


Parametric dipolar resonance
M Apostol


Parametric resonance in molecular resonance spectra
M Apostol


Giant dipole oscillations and ionization of heavy atoms by intense electromagnetic fields
M Apostol


Parametric resonance in rotation molecular spectra
M Apostol and L C Cune


Quasi-classical dynamics: harmonic-oscillator approximation to some quantum-mechanical systems, especially in condensed matter
M Apostol


Motion of an electric charge under the action of laser fields
M Apostol


On the dissociation (fragmentation) of atoms, molecules, atomic clusters and atomic nuclei in strong laser fields
M Apostol


Rotation molecular spectra in static electric fields
M Apostol and L C Cune


Displaced logarithmic profile of the velocity distribution in the boundary layer of a turbulent flow over an unbounded flat surface
S Talpos and M Apostol


Elastic equilibrium of the half-space revisited. Mindlin and Boussinesq problems
B F Apostol

238 Elastic waves equation with localized sources in isotropic half-space
   B F Apostol
239 Primary and secondary seismic waves generated by localized seismic sources
   B F Apostol
240 Elastic deformation of a half-space under the action of a tensorial force.
   General solution for the half-space with point forces
   B F Apostol
241 General solution to the elastic deformation of the half-space with point forces
   B F Apostol
242 Deformation of an isotropic elastic half-space under the action of point forces.
   General solution
   B F Apostol
243 Vibration eigenfrequencies of a homogeneous elastic sphere with large radius
   B F Apostol
244 Preliminary tremor, main shock and the "tail" produced by earthquakes on
   Earth's surface
   B F Apostol
   J. Theor. Phys. 244 (2016)
245 On the Lamb problem. Forced vibrations of an isotropic elastic half-space
   B F Apostol
246 Electric charges in high-intensity laser fields
   M Apostol
247 Non-relativistic electric charge in electromagnetic field
   M Apostol
248 On the measurement process in Quantum Mechanics
   M Apostol
249 Preliminary tremor, main shock and the seismic tail produced by earthquakes
   on Earth's surface
   B F Apostol
250 Other few remarks on the motion. Vibrations of macroscopic ensembles of
   particles (Lecture twelve of the Course of Theoretical Physics)
   M Apostol
251 On the role of boundary conditions in the wave motion propagated in semi-
   infinite solids and fluids
   M Apostol
Normal modes and coupled harmonic oscillators in structural engineering, the model of the embedded bar and amplification factors
B F Apostol

Elastic waves interacting with a plane surface
B F Apostol

Singular solutions of the wave equation: a model description of the tsunami phenomenon
M Apostol

Ten naive commentaries of the non-expert layman M. Apostol on the Seismological Problem
B F Apostol

On unphysical terms in the elastic Hertz potentials
M Apostol