

## Bibliography of C. L. Pekeris

Abbreviations for cited journals and other publications.

|            |   |
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| ApJ        | Astrophysical Journal                                     |
| BSSA       | Bulletin of the Seismological Society of America          |
| GBG        | Gerlands Beitrage zur Geophysik                           |
| GJRAS      | Geophysical Journal of the Royal Astronomical Society     |
| JAP        | Journal of Applied Physics                                |
| JASA       | Journal of the Acoustical Society of America              |
| JAS        | Journal of the Aeronautical Society                       |
| JFM        | Journal of Fluid Mechanics                                |
| JGR        | Journal of Geophysical Research                           |
| MNRAS      | Monthly Notices of the Royal Astronomical Society         |
| NACA       | National Advisory Committee for Aeronautics               |
| Phil. Mag. | Philosophical Magazine                                    |
| Phys.      | Physics   |
| PF         | Physics of Fluids   |
| PR         | Physical Review   |
| PCPS       | Proceedings of the Cambridge Philosophical Society        |
| PIRE       | Proceedings of the Institute of Radio Engineers           |
| PNAS       | Proceedings of the National Academy of Science USA        |
| PRSA       | Proceedings of the Royal Society, Series A                |
| PTRSA      | Philosophical Transactions of the Royal Society, Series A |
| TAGU       | Transactions of the American Geophysical Union            |

**1929** Certain Families of Equipotential Lines and Surfaces: **BSc thesis**, Program in Meteorology, Department of Aeronautical Engineering, Massachusetts Institute of Technology.

**1930** Radiation Equilibrium and Humidity Distribution in a Semi-Gray Atmosphere: GBG, **33**, 377.

Bemerkungen zum Aufzatz von Eduard Stöker “Zur Einfuhrung der Entropie in die Behandlung der Atmosphärischen Thermodynamik”: Meteorological Zeitschrift XLVII.

**1932** The Development and Present Status of the Theory of the Heat Balance in the Atmosphere: *MIT Meteor. Course No. 5*. Cambridge, Massachusetts, 82 pp.

**1933** The Development and Present Status of the Theory of the Heat Balance in the Atmosphere: **ScD thesis**, Program in Meteorology, Department of Aeronautical Engineering, Massachusetts Institute of Technology.

**1934** On the Interpretation of the Umkehr Effect in Atmospheric Measurements: Norwegian Academy of Sciences.

Rotation-Vibration Coupling in Diatomic Molecules: PR **45**, 98-103.

Atmospheric Ozone Measurements: with G. D. Birkhoff, GBG, **37**, 192-202.

Note on Brunt's Formula for Nocturnal Radiation of the Atmosphere: ApJ, **79**, 441.

Inverse Boundary Problem in Seismology: Phys., **5**, 307-316.

**1935** Propagation of Rayleigh Waves in Heterogeneous Media: Phys., **11**, 133-138.

Absorption Coefficients and H-Line Intensities: with D. H. Menzel. MNRAS, **96**, 77-111.

Thermal Convection in the Interior of the Earth: MNGS, **3**, 343-367.

**1936** Stability Problems in Hydrodynamics: PCPS, **42**, 55-66.

Atmospheric Oscillations: Nature, **138**, 642.

**1937** Atmospheric Oscillations: PRSA, **158**, 650-671.

The Balance of Vorticity in Parallel Shear Motion: JAS, **4**, 258.

**1938** On the Stability Problem in Hydrodynamics, II: JAS, **5**, 237.

Non-Radial Oscillations of Stars: ApJ, **88**, 189-199.

**1939** Ice Formation: with L. B. Slichter, JAP, **10**, 135-137.

Propagation of a Pulse in the Atmosphere: PRSA, **171**, 434-449.

**1940** Note on Tides in Walls: TAGU, 212.

A Pathological Case in the Numerical Solution of Integral Equations: PNAS, **26**, 433-437.

Direct Method of Interpretation in Resistivity Prospecting: Geophysics, **5**, 31.

Vertical Distribution of Ionization in the Upper Atmosphere: Terr. Mag., **45**, 205-211.

**1941** Radial Pulsations of Stars: ApJ, **94**, 124.

The Propagation of an SH Pulse in a Layered Medium: TAGU: I, Repts. Papers (Seism. Sec.), 392-393,

**1942** Differentiation with the Cinema Integraph: J. Franklin Inst., 234, 17-29.

Comments on T. E. W. Schumann's Paper: "An Investigation Concerning G. I. Taylor's Correlation Coefficient of Turbulence": *Phil. Mag.*, **83**, 541-543.

**1944** Comments on Bethe's Theory of Diffraction of an Electromagnetic wave by small holes: *PR*, **66**, 351.

**1945** Transmission of Light from a Point Source in a Medium Bounded by Diffusely Reflecting Parallel Plane Surfaces: *J. Opt. Soc. Am.*, **35**, 651-657, with H. Bateman.

On the Theory of the Electron and of the Nucleon: *PR*, **69**, 227-228.

**1946** Asymptotic solutions for the normal modes in the theory of microwave propagation: *JAP*, **17**, 1108-1124.

On the scattering of fast neutrons by protons: *PCPS*, **52**, 45-54.

Accuracy of the Earth-flattening approximation in the theory of microwave propagation: *PR*, **70**, 518-522.

Theory of propagation of sound in a half-space of variable sound velocity under conditions of the formation of a shadow zone: *JASA*: **18**, 295-315.

**1947** The field of a microwave dipole antenna in the vicinity of the horizon: *JAP*, **18**, 667-680.

The field of a microwave dipole antenna in the vicinity of the horizon, II: *JAP*, **18**, 1025-1027.

Preliminary analysis of microwave transmission data obtained on the San Diego Coast under conditions of a surface duct: *JAP*, **18**, 838-842.

Wave Theoretical Interpretation of Propagation of 10 cm and 3 cm Waves in Low Ocean Ducts: *PIRE*, **35**, 453-462.

Note on the Scattering of Radiation in an Inhomogeneous Medium: *PR*, **71**, 268-269, erratum, **71**, 457.

Characteristic Values of the First Normal Mode in the Problem of Propagation of Microwave Through an Atmosphere with a Linear-Exponential Modified Index of Refraction: *Phil. Mag.*, **88**, 801.

**1948** The Effect of Ground Constants on the Characteristic Values of the Normal Modes in Non-Standard Propagation of Microwaves: *JAP*, **19**, 102-105.

Theory of Propagation of Explosive Sound in Shallow Water: Geol. Soc. Am. Memoir **27**.

Stability of laminar flow through a straight pipe of circular cross section to infinitesimal disturbances which are symmetrical about the axis of the pipe: PNAS, **34**, 285-295.

Propagation of a pulse in the atmosphere II: PR, **73**, 145-154.

Stability of the Laminar Parabolic Flow of a Viscous Fluid between Parallel Fixed Walls: PR, **74**, 191-199.

**1949** Determination of the depth of an underwater explosion from the measurement of the dome of the spray: PNAS, **35**, 442-452.

**1950** Free oscillations of an atmosphere in which temperature increases linearly with height: NACA Technical note No. 2209: 24 pp.

On field theories with non-localized action: PR, **79**, 145-165.

The zero-point energy of Helium: PR, **79**, 884-885.

**1951** Effect of quadratic terms in differential equations of atmospheric oscillations: NACA Technical note No. 2314: 10 pp.

**1953** A classical model of a Roton: PNAS, **39**, 443-451

**1954** On the program of the systemization of particles and interactions: PNAS, **40**, 484-492.

Spherical spinors in a Euclidean 4-space: PNAS, **40**, 835-841.

**1955** The seismic surface pulse: PNAS, **41**, 469-480.

The seismic buried pulse: PNAS, **41**, 629-639.

Solution of the Boltzmann-Hilbert integral equation: PNAS, **41**, 661-669.

**1956** The seismic pulse, an example of wave propagation in a doubly refracting medium: IRE Transactions on Antennas and Propagation, **AP4**, 508.

Solution of an integral equation occurring in impulsive wave propagation: PNAS, **42**, 439-443.

Research on the oscillations of the Earth and theoretical seismology: JGR, **61**, 405.

**1957** Solution of the Boltzmann-Hilbert integral equation, the coefficients of viscosity and heat conduction: PNAS, **43**, 998-1007.

Motion of the surface of a uniform half-space produced by a buried pulse: with H. Lifson, JASA, **30**, 323-328.

Radiation resulting from impulsive current in a vertical antenna placed on dielectric ground: JAP, **28**, 1317-1323.

**1958** The free oscillations of the Earth: with H. Jarosch, In Benioff, H., Ewing, M., Howell, Jr., B. F., & Press, F., editors, *Contributions in Geophysics in Honor of Beno Gutenberg*, 171-192, Pergamon, New York.

Ray theory solution of the problem of propagation of explosive sound in a layered liquid: with I. M. Longman, JASA, **31**, 323-328.

The motion of the surface of a uniform half-space produced by a buried torque pulse: with I. M. Longman, GJRS, **1**, 146-153.

Ground state of two-electron atoms: PR, **112**, 1649-1658. **citation classic**

**1959** Oscillations of the Earth: with Z. Alterman and H. Jarosch, PRSA, **252**, 80-95.

Application of ray theory to the problem of long-range propagation of explosive sound in a layered liquid: with H. Lipson and I. M. Longman, BSSA, **49**, 247-250.

$1^1S$  and  $2^3S$  States of Helium: PR, **115**, 1216-1221.

Dynamical theory of the bodily tide of the Earth: with Z. Alterman and H. Jarosch, Proc. 3<sup>rd</sup> Intl. Symp. Earth Tides.

**1960** Solution of the Boltzmann-Hilbert integral equation, propagation of sound in a rarefied gas: with Z. Alterman and L. Finkelstein, *Symposium on the numerical treatment of ordinary differential equations, integral and integro-differential equations*, 388-398, Birkhauser, Basel.

Propagation of seismic pulses in layered liquids: *International symposium on stress wave propagation in materials*, 45-47, Interscience, New York.

**1961** Comparison of Theoretical with Observed Values of the Periods of the Free Oscillations of the Earth: with Z. Alterman and H. Jarosch, PNAS, **47**, 91-98.

Rotational multiplets in the spectrum of the Earth: PR, **122**, 1692-1700.

Terrestrial Spectroscopy: with Z. Alterman and H. Jarosch, Nature, **190**, 498-500.

Propagation of Rayleigh waves in the Earth: with Z. Alterman and H. Jarosch, GJRAS, **4**, 219-241.

**1962**  $1^1S$ ,  $2^1S$  and  $2^3S$  states of  $Li^\pm$ : PR, **126**, 143-145.

Fine structure of  $2^3P$  and  $3^3P$  states of Helium: with H. Lifson and B. Schiff, PR **126**, 1057-1058.

$1^1S$ ,  $2^1S$ , and  $2^3S$  States of  $H^-$  and of He: PR, **126**, 1470-1476.

Excited S states of Helium: PR, **127**, 509-511.

Eigenvalues and eigenfunctions of the linearized Boltzmann collision operator for a Maxwell gas and for a gas of rigid spheres: with Z. Alterman and K. Frankowski, ApJ Suppl., **69**, 291.

Effect of the rigidity of the inner core on the fundamental oscillations of the Earth: with Z. Alterman and H. Jarosch, PNAS, **48**, 592.

Propagation of sound in a gas of rigid spheres: with Z. Alterman, L. Finkelstein and K. Frankowski, PF, **5**, 1608-1610.

**1963** Studies in terrestrial spectroscopy: with Z. Alterman and H. Jarosch, JGR **68**, 2887.

Note on the square-integrability of the kernel of the linear Boltzmann integral equation for rigid sphere molecules: PNAS, **49**, 38-40.

Propagation of an SH-torque pulse in a layered solid: with F. Abramovici and Z. Alterman, BSSA, **53**, 39-57.

**1964**  $f$  values for the transitions between the  $1^1S$ ,  $2^1S$  and  $2^3S$ , and the  $2^1P$ ,  $2^3P$  and  $3^3P$  states in Helium: with B. Schiff, PR **134**, A638-A640.

The  $K_2$  tide in oceans bounded by meridians and parallels: with Y. Accad, PRSA, **278**, 110-128.

**1965** Fine structure of  $2^3P$  and  $3^3P$  states of Helium: with B. Schiff and H. Lifson, PR, **137**, A1672-A1675.

$2^13P$ ,  $3^13P$  and  $4^13P$  states of He and the  $2^1P$  state of  $Li^\pm$ : with B. Schiff, H. Lifson and P. Rabinowitz, PR, **140**, A1104-A1121.

Heat transport between parallel plates in a rarified gas of rigid spherical molecules: with Z. Alterman and K. Frankowski, PF, **8**, 245.

Propagation of a compressional pulse in a layered solid: with Z. Alterman, F. Abramovici, and H. Jarosch, *Rev. Geoph.*, **3**, 25-47.

Asymptotic theory of the free torsional oscillations of the Earth: *PNAS*, **51**, 1254.

**1966** Logarithmic terms in the wave functions of the ground state of two-electron atoms: with K. Frankowski, *PR*, **146**, 46-49.

Logarithmic terms in the wave functions of the ground state of two-electron atoms: with K. Frankowski, *PR*, **150**, 366.

The seismic crustal functions of the earth: with M. Shimshoni, *GJRS*, **11**, 1.

The internal constitution of the Earth: *GJRS*, **11**, 85.

**1967** Stability of plane Poiseuille flow to periodic disturbances of finite amplitude in the vicinity of the neutral curve: with B. Shkoller, *JFM*, **29**, 31-38.

Wave theory intrinsic to seismology: *GJRS*, **13**, 369.

**1968** Tides in oceans of the form of a cross: *PRSA*, **305**, 219-233.

Free tidal oscillations in rotating flat basins of the form of rectangles and of sectors of circles: with A. Pnueli, *PTRSA* **263**, 149.

**1969** Calculated wavelengths for transitions between S and P states in two-electron atoms and comparison with experiment: with Y. Accad and B. Schiff, *PR*, **183**, 78-80.

Solution of Laplace's equations for the  $M_2$  tide in the world oceans: *PTRSA*, **265**, 413-436.

Stability of plane Poiseuille flow to periodic disturbances of finite amplitude: with B. Shkoller, *JFM*, **39**, 611-627.

The neutral curves for periodic perturbations of finite amplitude: with B. Shkoller, *JFM*, **39**, 629-639.

**1970** Fine structure of the  $2^3P$ ,  $3^3P$  and  $4^3P$  states of  $Li^\pm$  with B. Schiff and Y. Accad, *PR*, **A1**, 1837-1838.

Stability of plane Poiseuille flow to periodic disturbances of finite amplitude II: with B. Shkoller, *PNAS*, **56**, 197-199.

**1971** S and P states of the helium isoelectric sequence up to  $Z = 10$ : with B. Schiff and Y. Accad, *PR*, **A4**, 516-536.

f values for transitions between the low-lying S and P states of the Helium isoelectric sequence up to  $Z = 10$ : with B. Schiff and Y. Accad, PR, **A4**, 885-893.

Stability of plane Poiseuille flow to periodic disturbances of finite amplitude III: with B. Shkoller, PNAS, **57**, 1434-1435.

Magnetic field induced by the bodily tide in the Earth's core: PNAS, **57**, 1111-1113.

**1972** Dynamics of the Liquid Core of the Earth: with Y. Accad, PRSA, **273**, 237-260.

Stationary spherical vortices in a perfect fluid: PNAS, **58**, 2460-2462.

**1973** Correction to the  $n^3P_1$  levels of the Helium isoelectric sequence owing to the mixing with the  $n^1P_1$  state: with B. Schiff and Y. Accad, PR, **A8**, 2272-2273.

Kinematic dynamos and the Earth's magnetic field: with Y. Accad and B. Shkoller, PRSA, **275**, 425-461.

**1974** Scattering of sound by a plane vortex sheet: JASA, **55**, 1761.

**1975** Two-electron S and P term values with smooth Z dependence: with Y. Accad and B. Schiff, PR, **A11**, 1479-1481.

A derivation of Laplace's tidal equation from the theory of inertial oscillations: PRSA, **344**, 81-86.

On the possibility of a hydrodynamic model of the electron: PNAS, **61**, 2037-2040.

Theory of homogeneous dynamos in a rotating liquid sphere: with Y. Accad, PNAS, **61**, 1496-1500.

**1976** A relativistic spherical vortex: PNAS, **62**, 687-691, correction 2527.

**1977** Relativistic axially symmetric flows of a perfect fluid: PRSA, **355**, 53-60.

**1978** Solution of the tidal equations for the  $M_2$  and  $S_2$  tides in the world oceans from a knowledge of the tidal potential alone: with Y. Accad, PTRSA, **290**, 235-266.

The bodily tide and the yielding of the Earth due to tidal loading: GJRS, **52**, 471-478.

**1979** Oscillations of a gravitating and rotating uniform liquid sphere: PRSA, **366**, 143-154.

**1980** Stationary spiral flow in polytropic stellar models: PNAS, **66**, 3075-3079.

**1982** Gravitational field of a charged mass point: PNAS, **68**, 6404-6408.



Studies in reverberation II. Scattering of sound by a cylindrical vortex embedded in a fluid at rest: JASA, **71**, 1106-1108.

**1984** Studies in reverberation III. Perturbation theory of scattering of sound by convection: JASA, **75**, 1369-1372.

**1985** Note on four-particle wave functions: with K. Frankowski, PNAS, **71**, 1299-1300.

**1986** Solution of Dirac's equation in Reissner-Nordstrom geometry: with K. Frankowski, PNAS, **72**, 1978-1982.

**1987** The nucleus as a source in Kerr-Newman geometry: PR, **A35**, 14-17.

The electromagnetic field of a Kerr-Newman source: with K. Frankowski, PR, **A36**, 5118-5124.

**1989** Hyperfine splitting in muonium, positronium, and hydrogen, deduced from a solution of Dirac's equation in Kerr-Newman geometry: with K. Frankowski, PR, **A39**, 518-529.

Note on the physical interpretation of Chandrasekhar separation constants in his solution of the Dirac equation in Kerr geometry: PRSA, **424**, 323-326.

**1991** Solution of the coupled Einstein-Maxwell equations in oblate spheroidal coordinates: with K. Frankowski, PNAS, **77**, 3263-3267.

Note on the form of the metric for an isolated vortex in general relativity: with K. Frankowski, PNAS, **77**, 6703-6708.

**1993** Matching the Kerr solution on the surface of a rotating perfect fluid: with K. Frankowski, General Relativity and Gravitation, **25**, 603-612.