



11/6/34

Engineering

Electrical and Computer Engineering Department

Kung Chie Yeh Papers, 1940-2002

Box 1:

Biographical information

Biographical sketches

Biographical information, vita, and research, 1961, 1973, 1977, 1989-92, 1999

Correspondence related to nomination for distinguished professor and employment appointments, 1984-85

Research proposals, reports, and correspondence related to proposals and reports

Reports on radio waves and transmissions, 1956, 1958

Correspondence, report, and proposal to Air Force on scintillation, 1966-67

Reports to Air Force on theoretical investigation of solar eclipse, 1966-69

Reports and proposal to National Science Foundation (NSF) on wave activities, 1966-69, 1990

Reports and proposal to National Science Foundation on ionosphere and wave propagation; correspondence and 1966, 1971-74

Correspondence and report on ionospheric electron content and navigation, 1966-72 (2 folders)

Correspondence and research proposal to NASA on ionosphere and wave propagation, 1966-71

Research proposal to Radio Astrological Lab on propagation studies, 1968

Research reports and correspondence on radio waves and ionosphere, 1968-70

Progress reports to Air Force on theoretical studies and experimental work to investigate conjugate ionospheric total electron content behavior, 1969-70

Correspondence and proposal to NASA on equatorial scintillation, 1970, 1972

Correspondence and proposal to Air Force on dynamic effects in the ionosphere, 1970-76

Progress reports on ionospheric model study, 1970-71

Progress reports to Air Force on measurements and comparisons between ionospherically propagated radio waves and total electron content, 1970-73

Correspondence and research proposal to National Science Foundation (NSF) on ionosphere and wave propagation, 1971-74

Correspondence and research proposals to NASA on ionospheric irregularities and scintillation, 1972-74

Research proposal to U.S. Army on pulse synthesis, 1973

Research proposal to NSF on degradation of communication signals, 1973-74

Correspondence and research proposal to National Oceanic and Atmospheric Administration (NOAA) on radio beacon experiments, 1973-76

Report to Air Force on studies of certain dynamic effects in the ionosphere, 1973

Research proposals to Air Force on ray training, 1974-75

Reports and correspondence on studies of ionospheric scintillation problems, 1975-78

Correspondence and research proposal to the Air Force on coherence bandwidth, 1976-82

Correspondence and research proposal to the U.S. Army on scintillation, 1976-80  
Correspondence and research proposal to National Science Foundation (NSF) on ionospheric scintillation problems, 1977-78  
Correspondence and research proposal to Rome Air Development Center, 1977  
Proposal on leading edges to Rome Air Development Center, 1977  
Correspondence and research proposal to Rome Air Development Center, 1977

Box 2:

Correspondence and research proposal to NSF on gravity waves, 1978-81  
Correspondence and research proposal to National Science Foundation(NSF) on gravity waves, 1978  
Correspondence, research proposal and report to National Science Foundation (NSF) on ionospheric scintillation problems, 1979-82  
Correspondence and research proposal to National Science Foundation (NSF) on ionospheric scintillation problems, 1979-82  
Research proposal on time delay anomaly, 1980  
Correspondence and research proposals to National Science Foundation (NSF) on acoustic-gravity waves in atmosphere, 1981-84  
Correspondence and research proposal to Air Force on scintillation measurements, 1980-83  
Correspondence and research proposals to National Science Foundation (NSF) on acoustic gravity waves in atmosphere, 1981-84  
Correspondence and research proposals to National Science Foundation (NSF) on scintillation, 1982-84  
Correspondence and research proposals to National Science Foundation (NSF) on scintillation, 1982-84  
Correspondence and research proposal to Aerospace Corporation on GPS ionospheric time delay, 1983, 1985  
Reports and correspondence on ionospheric effects on HF spread spectrum systems, 1983-88  
Correspondence, proposal, and report to Research Board on radio beacon receivers, 1983-85  
Correspondence and proposals to National Science Foundation (NSF) on scintillation, 1986-88  
Correspondence and research proposal to U.S. Army on sounding ionosphere, 1986-88  
Correspondence and proposal to U.S. Army on Center for Geosciences research, 1986  
Correspondence, reports, and proposal to National Science Foundation (NSF) on scintillation, 1988-90  
Correspondence and research proposal to National Science Foundation (NSF) on studies on gravity, 1989-91  
Research proposal on equatorial ionospheres, 1990  
Research proposal to U.S. Army on ionospheric response to wideband signals, 1990-93  
Research proposals on RADC expert science, 1990, 1993

- Research proposal to U.S. Army on ionospheric response to wide band signals at high frequencies, 1990-92
- Research proposals to National Science Foundation (NSF) on gravity, 1991-93
- Research proposal to NASA on ionospheric and atmospheric remote sensing, 1992
- Research proposal and report to National Science Foundation (NSF) on radio topographic data, 1997-98, 2000
- Correspondence and proposal to National Science Foundation (NSF) on low altitude and CIT ionospheric images, 2000-02
- Report on propagation of spherical waves to NASA, not dated
- Notes, papers, and correspondence related to research
  - "Anisotropic Excitation of Gravity Wave Modes around a Spherical Globe" by K.C. Yeh, date unknown
  - Notes on acoustic gravity waves, date unknown (2 folders)
  - Notes on Huygen-Fresnell Principle and other various calculations, dates unknown
  - Notes on pulse propagation, dates unknown
  - Notes on physics problems, dates unknown
  - Notes on wave propagation, dates unknown (2 folders)
  - Notes on electrodynamic equations, elastic collision processes, plasma kinetic theory, macroscopic equations, basic phenomena, charged particle orbits, and charged particle interactions, dates unknown
  - Notes and diagrams on Fourier transformations and numerical integration, dates unknown
  - Nonlinear interactions of a gravity wave and vortical modes in the atmosphere, dates unknown
  - "Electron Density Distribution Deduced by the Faraday Rotation Method" by K.C. Yeh, date unknown

Box 3:

- Notes and calculations, c. 1950s (2 folders)
- Notes on Quantum Mechanics, 1956-57
- Notes on classical mechanics and calculus, 1957
- "The Scintillation of Radio Signals From Satellites" by K.C. Yeh and diagrams, 1959
- "Gradient Instabilities as Possible Causes of Irregularities in the Ionosphere" by K.C. Yeh and notes, c. 1960
- Papers and notes on multiple scattering, c. 1960
- "Note on the Geometry of Earth magnetic Field Useful to Faraday Effect Experiments" by K.C. Yeh, and diagrams, 1960
- Satellite monthly reports, 1960
- "Variations of Ionospheric Electron Content During Disturbances" by K.C. Yeh, 1961
- Correspondence regarding papers and Advisory Group for Aerospace Research and Development (AGARD), 1964-65
- Correspondence regarding science problems, employment, and former students, 1964-68
- "Diffraction of Random Waves in a Homogeneous Anisotropic Medium" by K.C. Yeh, 1965
- Notes, correspondence and reports on study of ionosphere group delay and electron

content in navigational ranging, 1967-72  
 Correspondence with Maurice Youakim, 1969-71, 1976-78  
 Correspondence on 1970 Eclipse  
 "Gravity Waves in the Ionosphere" by K.C. Yeh, 1970  
 Correspondence and work with H.R. Cho, 1970  
 Notes on dispersions of wave packets, 1970s  
 Correspondence relating to studies of ionospheric waves, 1973-79  
 Notes and papers on ionosphere, 1977  
 Correspondence and reports on atmospheric events, 1981, 1985  
 Correspondence regarding research on acoustic gravity, 1982-83, 1985, 1987  
 Correspondence related to studies of ionosphere in India, 1983-84, 1987  
 Correspondence and "White Paper Submitted to the SDIO Innovative Science and  
 Technology Office" by K.C. Yeh, 1985  
 Correspondence regarding Advisory Group for Aerospace Research and Development  
 (AGARD), 1985-92  
 Conference Papers, 1987-90, 1997-99, 2003  
 Correspondence on NASA Explorer Project, 1988  
 Correspondence on transmitters, 1988  
 Notes and correspondence on spread spectrum communications, 1988  
 Correspondence on storm data, 1989-91  
 Correspondence regarding Super WAGS, 1990-92

Box 4:

Notes on ionospheric tomography, 1990  
 Union Radio-Scientifique Internationale membership, 1990-91  
 Correspondence on International Meeting on Wave Propagation, 1990-91  
 Correspondence regarding papers, 1991-92  
 Correspondence with Kejun Yang, 1991  
 Papers on acoustic gravity packets, 1991  
 "Ionospheric Response to a Solar Eclipse in the Equatorial Anomaly Region" by K.C.  
 Yeh, 1995  
 "Polarization Transformation of a Wave Field Propagating in an Anisotropic Medium" by  
 K.C. Yeh,; notes and correspondence, 1998-99  
 Notes on tomography, 1998  
 "Effects of Irregular Terrain on Waves – A Stochastic Approach" by K.C. Yeh, 1999  
 "Effects of Irregular Terrain on Waves – A Stochastic Approach" by K. C Yeh;  
 correspondence, 1999  
 Studies of low altitude ionospheric images, 2000-02  
 Photographs, Graphs, and Slides  
 Slides of Southern Lights (Auroras Australis), dates unknown  
 Photographs and graphs of experiment, dates unknown  
 Photographs and graphs, c. 1950s  
 Graphs on transequential ionospheric propagation by the scatter sounding method, 1956

Graphs on fading and attenuation of high-frequency waves propagated over long paths, 1958  
 Photographs and graphs of experiments, c. 1960s-80s  
 Correspondence with researchers abroad and foreign travel  
 Correspondence on U.S.-Eastern Cooperative Science Program, 1971-91 (2 folders)  
 Correspondence with researchers in Taiwan, 1967-68  
 Correspondence on U.S.-Italy Cooperative Science Program, 1973-74  
 Correspondence with researchers in Brazil, 1976-80  
 Correspondence with Yakov Alpert, 1977, 1980-82, 1987-88, 1991  
 Travel to China, 1981-83, 1986-87 (2 folders)  
 China Research Institute of Radiowave Propagation, 1981, 1984-85, 1987-88, 1992  
 China experimental university, 1985, 1990  
 Correspondence with researchers in India, 1986-92  
 U.S.-Poland research on high-altitude ionospheric scintillation, 1992, 1996  
 Researchers in China, (2 folders) dates unknown  
 Station Data and correspondence with researchers in China, 1994-96, 1998  
 Course Notes  
 EE420, date unknown  
 EE355, 1956  
 EE229, 1959, 1975, 1979-80

Box 5:

EE350, 1973, 1992  
 EE358, 1986  
 EE358, 1987

## Data

Audio tape on MAG Storm Data, 1989  
 CD-ROMs on tomography and LITN Analysis Program, c. 1990s

Box 6:

Boxes 6-10 include materials transferred in 2010.

## University Course Materials (student)

Math 206a, 32 1,332,345, 1951-1953  
 Electrical Engineering 160: Electronic Circuits, 1953  
 Electrical Engineering 235: Network Analysis, 1953  
 Electrical Engineering 330: Electron Devices, 1954  
 Physics 57: Atomic Physics, 1953-1954  
 Electrical Engineering 271/272: Fields and Waves, 1953-1954  
 Electrical Engineering 236: Circuit Synthesis, 1954 (2 folders)  
 Electrical Engineering 275: Radio Propagation, 1954  
 Physics 211: Microwave Electronics, 1954

Electrical Engineering 237: Circuit Sythesis II, 1955 (2 folders)  
 Electrical Engineering 226 227 228: Transistor Electronics, 1955-56 (2 folders)  
 Electrical Engineering 238: Active Networking Theory, 1956  
 Electrical Engineering 150: Electronics Teaching, 1956  
 Electrical Engineering 280: Solar Seminar, 1957  
 Physics 221: Electromagnetic Theory, 1957  
 Textbook (in Chinese)

Box 7:

Correspondence

Curriculum Vitaes, 1999-2002  
 Job Nominations, 1983-1991  
 Lee, Jeng-Feng recommendation, 1992  
 Personal (in Chinese)  
 Political, 1970-1989  
 Political 1998-2000  
 Promotion, 1988-1992  
 Reference (preprofessional, 1968-1992  
 Reference (professional), 1980-1996  
 Tyagi, Tuhi Ram, 1980-1983  
 University of Hawaii, 1968-1970  
 Yang, K.S. nomination, 1988

Course Materials (instructor)

Electrical Engineering 341, 1960  
 Mechanical Engineering 202: Thermodynamics, 1962  
 Electrical Engineering 486: Constitution of the Ionosphere, 1963  
 Math 451 and 468, 1963  
 Electrical Engineering 266: Probabilistic Methods in Electrical Engineering, 1974 (2 folders)

Manuscript Solicitation - "Theory of Ionospheric Waves," 1970

Research Reports (5 folders)

"Multiple Scattering of Electromagnetic Waves by Random Scatteres of Infinite Size," 1963  
 "Steady State Fluid Models of the Ion-exosphere," 1966  
 "Response of Ionospheric Electron Density to a Change of Electron Temperature," 1966  
 "Diffusion of Rays in Random Media," 1968  
 "An Investigation of F2 Ionospheric Behavior by Computer Methods," 1968  
 "Studies of the Ionosphere at Geomagnetically Conuugate Stations," 1969  
 "A Study of Traveling Disturbances in the Ionosphere," 1970  
 "Investigations of Ionospheric Total Electron Content Behavior at Conjugate Points and During a Solar Eclipse," 1970  
 "A Numerical Study of Rays in Random Media," 1970  
 "Techniques of Determining Ionospheric Structure from Oblique Radio Propagation

Measurements," 1976

Sabbatical

Leave, 1965-1966

Leave, 1976 and 1989

Box 8:

Subject Files

Certificates and Awards

Exercise Books-Calligraphy (2 folders)

Exercise Books-Shanghai High School

Map of China, 1948

National Construction Society (in Chinese)

National Sun Yat-Sen University, 1978-1979

National Sun Yat-Sen University, 1989

National Sun Yat-Sen University, 1984-1990

National Taiwan University, 1973-1974

National Taiwan University, 1977

National Taiwan University-Alumni List

National Taiwan University-Electrical Engineering (in Chinese)

National Taiwan University-Electrical Engineering Alumni Association in America (3 folders), 1964-1968

Nomination for honorary degree, Shin-Liang Chien

Progress Reports-Chao-han Liu

Relocation to UIUC, 1976

Retirement Party-G.W. Swenson

Salary Encumbrances, 1976-1987

Yeh, Su-chung (father) Memorial Materials

Zhongshan University (in Chinese)

Box 9:

Oversized photographs (2)

Oversized Awards (2)

Plaques (2 in Chinese)

Box 10:

Decorative plate in picture frame (in Chinese)