

11/12/20  
Engineering  
Civil Engineering and Nuclear Engineering  
Arthur B. Chilton Papers, 1952-84

Box 1: Publications 1952-84

Articles and Reports

- "A Mathematical Analysis of Carbon Dioxide Respiration" in Man. 1952
- "The Stopping Powers of Various Elements of Protons of Energies from 400-1050 kev.", Feb. 1, 1954
- "A Mathematical Analysis of Oxygen Respiration" in Man. 1954
- "Nuclear Power for the Shore Establishment", September 1955
- "The Stopping Power of Various Elements for Protons of Moderately Low Energies" 1958
- "Further Analysis of Gamma Ray Attenuation in Two-Legged Rectangular Ducts" May 11, 1961
- "Dose Attenuation Factors for Concrete Slab Shields Covered with Fallout as a Function of Time After Fission" June 1, 1961
- "Gamma Rays Streaming Through Two-Legged Rectangular Ducts" December 1961
- "A Semiempirical Formula for Differential Dose Albeds for Gamma Rays on Concrete" November 1963
- "Backscattering for Gamma Rays from a Point-Source Near a Concrete Plane Surface" November 1964
- "Two-Parameter Formula for Point-Source Buildup Factors" August 1965
- "A Review of Aperture and Ceiling-Shine Effects in Fallout Shielding Technology" December 1965
- "Backscattering of Gamma Rays from Point-Sources by an Infinite Plane Concrete Surface" 1965
- "A Comparison of Theory and Experiment for Shielding by a Structure Against Fallout Radiation" June 1966
- "Exposure Field from a Point Isotropic Source located at the Surface of a Thick Concrete Slab" August 1966
- "A Modified Formula for Differential Exposure Albedo for Gamma Rays Reflected from Concrete" October 11, 1966
- "Buildup Factors for Point Isotropic Gamma Ray Sources in Infinite Medium of Ordinary Concrete" September 1967
- "The Close-In Exposure Field from Point Isotropic Gamma Ray Source Located at an Air-Ground Interface" 1967
- "Linear Energy Transformation for Gamma Ray Monte Carlo Calculations" August 5, 1968
- "Differential Dose Albedo for Fast Neutrons" August 15, 1968
- "Modeling Relationships for Radiation Transport Within Ducts and other Cavities in Shields" August 23, 1968
- "Neutron Streaming through Ducts" May 12, 1969
- "Buildup Factors in Water for Gamma Rays of 1 MeV and Lower Energy" 1970
- "Effect of Material Composition on Neutron Penetration of Concrete Slabs" June 15, 1971
- "A Note on the use of the Tchebycheff Criterion for Determination of Parameters in

Empirical Approximations to Gamma Ray Buildup Factor Data" June 1971  
 "Neutron Streaming Through Ducts -- Analysis of Experimental Results" 1971  
 "Angle Selection Techniques for Gamma Photons in Monte Carlo Calculations

Box 1 (Cont.):

Articles and Reports (Cont.)

on Parallel Computers" August 1972  
 "Shielding Effectiveness of Ribbed Slabs Against Gamma Radiation Part I Experimental and Theoretical Studies. Part II Engineering Methods" 1972  
 "Methods for Calculating Radiation -- Induced Heat Generation" 1972  
 "Proceedings of the Third International Congress of the International Radiation Protection Association" September 9-14, 1973  
 "Angle Selection Techniques for Gamma Photons in Monte Carlo Calculations of Parallel Computers" 1974  
 "Studies of a Minor Facility for Radiation Testing of Materials"--Prometheus, July 15-18, 1975  
 "Comment on Attenuation of 14 MeV Neutrons through Concrete Shields" November 1975  
 "Tabulation and Empirical Representation of Infinite-Medium Gamma Ray Buildup Factors for Monoenergetic Point Isotropic Sources in Water, Aluminum and Concrete" 1975  
 "Review of the Shielding Calculations for the Proposed Fast Breeder Blanket Calculations at Purdue University" July 31, 1976  
 "Spatial Channel Theory" January 26, 1977  
 "Optimized Taylor Parameters for Concrete Buildup Factor Data" June 13, 1977  
 "Linearity of Dose Responses for Radiation Carcinogenesis" September 1977  
 "A Note on a Fluence Concept November 16, 1977. Further Comments on an Alternate Definition of Fluence" November 9, 1978  
 "Concrete Buildup Factors Based on the American National Standard for Flux-to-Dose Rate Conversion" September 4, 1979  
 "Calculation of the Fast Neutron Depth Dose in the ICRU Standard Tissue Phantom and the Derivation of Neutron Fluence-to-Dose Index Conversion Factors" 1979  
 "Depth-Dose Relationships near the Skin Resulting from Parallel Beams of Fast Neutrons" 1979  
 "Tchebycheff-Fitted Berger Coefficients for Eisenhauer-Simmons Gamma Ray Buildup Factors in Ordinary Concrete" 1979  
 "Photon Point-Source Buildup Factors for Air, Water and Iron" 1980  
 "Gamma Ray Buildup Factors for Concrete Slab Shields under Slant Incidence Conditions" 1980  
 "Progress Report on Studies Concerning Doses in the ICRU Sphere Resulting from Neutron Beams" 1981  
 "Calculations of Low-energy Neutron Dose Indices and Depth Doses in the ICRU Tissue Sphere" 1983  
 "Low Energy Photon Dose Deposition in Tissue Slab and Spherical Phantoms" September

1983

Books

Radiation Shielding Analysis and Design Principles as Applied to Nuclear Defense Planning,  
November 1966

Engineering Compendium on Radiation Shielding

Volume I Shielding Fundamentals and Methods

Volume II Shielding Materials

Volume III Shield Design and Engineering

Structure Shielding Against Fallout Gamma Rays from Nuclear Detonations, Sept. 1980

Box 1 (Cont.)

Books (Cont.)

Proceedings European Seminar on Radiation Protection Qualities for External Exposure,  
1981

Principles of Radiation Shielding, 1984