

**D130 Austin Keane (1927-1979)**

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History	<p>Austin Keane was appointed Professor of Mathematics at Wollongong University College in 1964. A graduate of Sydney and New South Wales Universities, he was awarded a D.Sc. posthumously in 1980 from the University of Wollongong.</p> <p>Professor Keane's publications included <u>Integral Transforms</u> (1965) and a number of pages and reports. He was editor of <u>Complementary Mathematics</u> (1959), <u>Special Functions</u> (1966), <u>Mathematics Methods</u> (1961) and <u>Numerical Computing</u> (1967).</p> <p>In addition to his membership of various University committees, Professor Keane was president of the Royal Society of NSW in 1968. He was a foundation member of the Australian Mathematics Society and a councillor of the Institute of Marine Science.</p> <p>The title of Emeritus Professor was conferred on Professor Keane when he retired from the University of Wollongong in 1978.</p>
Record Summary	Published research papers on mathematics.
Date	1953-78.
Quantity	2 v.
Access	Available for reference
Accessioned	25 May 1981.
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1 Collected Works. 1953-78. 2 v.

- 1 "Variation of the incompressibility of an elastic material subjected to large hydrostatic pressure." Nature. v.172, 18 July 1953, p.117.
- 2 "An investigation of finite strain in an isotropic material subjected to hydrostatic pressure and its seismological applications." Australian Journal of Physics. v.7, no.2, 1954, p.322-333.
- 3 "The gravitational compression of an elastic sphere." Australian Journal of Physics. v.8, no.1, 1955, p.167-175.
- 4 "The effect of leakage on mine ventilation." Colliery Engineering, May 1955, p.207-211. [Jointly with W. Peascod]
- 5 "Reducing leakage on mine ventilation." Colliery Engineering. Nov 1955, p.463-465. [Jointly with W. Peascod]
- 6 "The normal vibration frequencies of XY<sub>3</sub>Z<sub>3</sub> molecules belonging to the point group D<sub>3h</sub>." Journal and Proceedings Royal Society of NSW. v.89, 1956, p.173-177.
- 7 "Note on the preceding paper by C.M. Groden." Journal and Proceedings Royal Society of NSW. v.89, 1956, p.184-185.
- 8 "Using a booster to reduce leakage." Colliery Engineering. Jun 1956, p.238-240. [Jointly with W. Peascod]
- 9 "A problem on leakage reduction." Colliery Engineering. Aug 1956, p.333-336. [Jointly with W. Peascod]
- 10 "Efficient use of a booster fan in mine ventilation." Journal and Proceedings Royal Society of NSW. v.90, 1956, p.163-173.
- 11 "An approximate calculation of the Doppler coefficient in natural uranium lattices." United Kingdom Atomic Energy Authority AERE R/M 197. 1958, 14p.
- 12 "Resonance absorption in a slab with a parabolic temperature distribution." United Kingdom Atomic Energy Authority AERE R/M 198. 1958, 15p.
- 13 "An investigation of the temperature dependence of the Doppler coefficient in natural uranium lattices." United Kingdom Atomic Energy Authority AERE R/M 224. 1959.
- 14 "A derivation of the effective resonance integral in heterogeneous systems." Australian Atomic Energy Commission AAEC/E 43. 1959, 25p. [Jointly with M.H. McKay and C.D. Cox]
- 15 "A correction to the effective resonance integral in heterogeneous nuclear reactors to allow for fuel geometry." Australian Journal of Applied Science. v.11, no.1, 1960, p.1-15. [jointly with M.H. McKay]

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- 16 "A useful approximation in the theory of resonance absorption." Australian Journal of Applied Science. v.11, no.3,1960, p.321-328.
- 17 "The Doppler coefficient for reactors containing Thorium." Australian Atomic Energy Commission AAEC/E49. 1960, 8p.
- 18 "Resonance absorption in a cylindrical fuel rod with radial temperature variation." Journal and Proceedings Royal Society of NSW. v.94, 1961, p.215-225.
- 19 "Slowing down from an energy distributed neutron source." Nuclear Science and Engineering. v.10, no.2, 1961, p117-119.
- 20 "High energy neutron spectra in infinite homogeneous reactor systems moderated by beryllium or beryllia." Australian Atomic Energy Commission AAEC/E91. 1962, 13p. [jointly with R.G. Mills]
- 21 "Slowing down with the isotropic scattering." Nuclear Science and Engineering. v.12, no.2, 1962, p313-314. [jointly with J.P. Pollard]
- 22 "A comment on the collision density at epithermal energies." Nuclear Science and Engineering. v.15, no.3, 1963, p229-232. [jointly with C.A. Wilkins]
- 23 "MULGA – a complex of codes for the determination of multigroup averaged neutron cross section data." Australian Atomic Energy Commission AAEC/E114. 1963, 36p. [jointly with B.E. Clancy, G. Doherty, E. Kletzmayer, J.P. Pollard]
- 24 Doppler broadened contour functions in the complex domain." Journal Australian Mathematical Society. v.4, pt.3, 1964, p.345-362. [jointly with B.E. Clancy]
- 25 "Integrals involving Doppler broadened contour functions." Australian Atomic Energy Commission AAEC/E117. 1964. [jointly with B.E. Clancy]
- 26 "Effective resonance integrals for low energy resonances." Journal Nuclear Science Technology. v.2, no.11, 1965, p.445-449. [jointly with M.H. McKay and J.P. Pollard]
- 27 "Equivalence relations for resonance absorption in small particles." Australian Atomic Energy Commission AAEC/E120. 1964, 9p.
- 28 "Interactive solution of the neutron slowing down equation." Nuclear science and Engineering. v.26, 1966, p330-533. [jointly with M.W. Dyos]
- 29 "On the neutron flux distribution through a resonance." Nuclear science and Engineering. v.26, 1966, p288-291. [jointly with T.S. Horner]
- 30 "Exact solution of the problem of Goldstein and Cohen." Nuclear science and Engineering. v.26, 1966, p.580.
- 31 "An estimate of the decrease in the effective resonance integral due to resonance overlap." Nuclear science and Engineering. v.25, 1966, p294-305.

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- 32 "The maximum Doppler effect." Journal Nuclear Science and Technology. v.4, no.3, 1967, p149-151. [jointly with T.S. Horner]
- 33 "The synthetic kernels of neutron slowing-down theory and related expansion." Australian Atomic Energy Commission AAEC/E155. 1966, 9p.
- 34 "Multigroup cross section of resonance absorbers." Nuclear science and Engineering. v.25, 1966, p439-445. [jointly with J.P.Pollard]
- 35 "Equivalence relations for heterogeneous reactor systems." Australian Atomic Energy Commission AAEC/E166. 1966, 8p. [jointly with M.H. McKay]
- 36 "A study of the effective resonance integral and Doppler coefficient of U2 38, Th 232 and Pu 240 using the code complex LUBRA." Australian Atomic Energy Commission AAEC/E168. 1966, 30p. [jointly with E. Kletzmayer]
- 37 "A marine physics project." Wollongong University College Bulletin. No.19, 1968, 9p. [jointly with D. Clarke and P.J. O'Halloran]
- 38 "Equivalence relation based on improved rational approximation." Journal Nuclear Science and Technology. v.6, no. 5, 1969, p.273-278. [jointly with C. Chiarella]
- 39 "A problem in mine ventilation." Journal and Proceedings Royal Society of NSW. V. 102, 1969, P.83-86.
- 40 "An approximation for self shielding." Australian Atomic Energy Commission AAEC/TM539. 1970, 13p. [jointly with M.W. Bunder]
- 41 "A comparison of estimates of nuclear bomb casualties from two different urban models." Operations Research. v.17, 1969, p.923-25. [jointly with C.A. Wilkins and J.A. Shaw]
- 42 "Series of roots of a transcendental equation." Journal and Proceedings Royal Society of NSW. v.110, 1977, p.29-31. [jointly with P. Cerone]
- 43 "The momentum of population growth with time dependent maternity function." Demography. v.15, no.1, 1978, p131-134 [jointly with P. Cerone]
- 44 "The stable births resulting from a time dependent change between two net maternity functions." Demography. v.15, no 1, 1978, p.135-137. [jointly with P. Cerone]
- 45 "Topics in advanced mathematics." UNSW Institute of Nuclear Engineering INE/M2. 1960, 89p. [jointly with A. Reichel]
- 46 "A short course in nuclear engineering." UNSW Institute of Nuclear Engineering INE/M3. 1960, 26p.
- 47 "An estimate of the decrease in the effective resonance integral due to resonance overlap." Australian Atomic Energy Commission AAEC/TM296. 1965, 10p.

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- 48 “Resonance absorption of low energy neutrons.” Australian Atomic Energy Commission AAEC/TM297. 1965, 6p. [jointly with M.H. McKay and J.P. Pollard]
- 49 “Anisotropy in the migration area in a parallel slab subcritical assembly.” Australian Atomic Energy Commission AAEC/TM302. 1965, 4p.
- 50 “On the neutron flux distribution through a resonance.” Nuclear Science and Engineering. v.26, 1966, p.288. [jointly with M.W. Dyos]
- 51 “The Temperature dependence of the overlap correction in resonance absorption calculations.” Australian Atomic Energy Commission AAEC/TM355. 1966, 11p. [jointly with P.J. O’Halloran]
- 52 “The maximum Doppler effect for a single Breit-Wigner resonance.” Australian Atomic Energy Commission AAEC/TM363. 1966, 4p. [jointly with T.S. Horner]