# A Complete Bibliography of Publications of Claude Elwood Shannon

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**Abstract**

This bibliography records publications of Claude Elwood Shannon (1916–2001).

## Title word cross-reference

$H'$ [Siq98]. $n$ [Sha55d]. $P/N \to \infty$ [Sha48j]. $s$ [Sha55d].

**1950** [Ano53]. **1955** [MMS06]. **1982** [TWA+87].

**2001** [Jam09, Pin01]. **2D** [ZBM11].

**Aberdeen** [FS43]. **ablation** [GKL+13]. **above** [TT12]. **absolute** [Ric03]. **Abstract** [Sha55c]. **abundance** [Gor06]. **abundances** [Ric03]. **Academics** [Pin01]. **According** [Sav64]. **account** [RAL+08]. **accuracy** [SGB02]. **activation** [GKL+13]. **Actually** [Sha53e]. **Advanced** [Mar93]. **After**

[Bot88, Sav11]. **After-Shannon** [Bot88]. **age** [Nah13]. **A'h** [New56]. **A'h-mose** [New56]. **Aid** [Bro11, Sha78, SM53]. **Albert** [New56]. **alcohol** [SBS+13]. **Algebra** [Roc99, Sha40c]. **algorithm** [HDC96, LM03]. **alignments** [CFRC04]. **Alternate** [Sha44e]. **Ambiguity** [PGM+12]. **America** [FB69]. **American** [Sha78]. **among** [AALR09, Di 00]. **Amplitude** [Sha54a]. **Analogue** [Sha43a]. **analogues** [Gor06]. **analyses** [SBS+13]. **Analysis** [Sha37, Sha38, GB00, RAL+07, SGB02, TKL+12, dTS+03]. **analyze** [HGR+12]. **Analyzer** [MS53a, MS53b, Sha41d, FS43]. **Anecdotes** [TWA+87]. **angular** [CS09]. **Animal** [Sha49d]. **Apparatus** [Sha51b]. **Applicability** [Tim02]. **Application** [AALR09, JAS89, Sha48h, TWA+87, WVB10, FCW+00, POA+08, Rif85, SSAK06]. **Applied** [BLR+02, BLR+01, MBD+03, dTS+03]. **Applying** [ABS+13]. **Approach** [Sha48j, Sha55c, BB88, LR05, Pri85, RS06, Rog94, Wri67]. **approximation** [Koc05]. **April** [Jam09]. **aqueous** [SGB02]. **Archimedes** [Pic08]. **architectural** [SBS+13]. **area** [JSMS12]. **aromaticity** [NS10]. **Articulation** [Lei07]. **artificial** [MMS06]. **Aspects** [Sha80]. **assemblages** [Siq98]. **assess** [RFME+12]. **assessment** [BQhH08, JSMS12]. **Associative** [Bot88]. **asynchronisms** [RAL+07]. **atomic** [AALR09, GFD03, SK04]. **atoms** [Liu07, Sen05]. **Atrial** [LMC11, GKL+13]. **August** [MMS06]. **Automata** [SM56, SM74, Sha53b, Sha58c]. **Automaten** [SM74]. **Automation** [Sha63]. **avoided** [GFD03]. **Award** [Bar01, Kha16]. **Awards** [Pin01].

**B** [HGR+12]. **backgrounds** [WMS+12]. **Backlash** [Sha41a]. **bacterial** [ABS+13]. **Ballistic** [FS43]. **Band** [Sha54a]. **Bandwagon** [Sha56a]. **Bandwidth** [Sha44d]. **basada** [Pla06]. **base** [JGH00]. **based** [APMS+12, BQhH08, CFRC04, HSBJ02, Koc05, LM03, MBD+03, NS12, WGB09, WBB+12]. **Bayes** [APMS+12]. **Be** [Far03, Far02]. **Beautiful** [Far03, Far02]. **Behavior** [DS46]. **behind** [Pic08]. **Beings** [Szi64]. **bellied** [dPV00]. **Berechnung** [Sha57b]. **Best** [Sha44a]. **beta** [MHBL12]. **Betting** [Sha56d]. **between** [Liu07, RS06, Zha09]. **beyond** [LP12]. **biases** [Zee02]. **Bihar** [JAS89]. **Binary** [Bar01, Sha54b, Sha93, SGB02]. **Biodiversidad** [Pla06]. **Biodiversity** [Pla06]. **Biographical** [Gal03, Rog94]. **Biographies** [Cor87, Wei88]. **Biological** [HWO90, Ric03]. **biologist** [Sch06]. **biology** [Sch06]. **biomarkers** [APMS+12]. **Biopolitics** [Roc99]. **Bipolar** [GKL+13]. **bit** [Ale03]. **bone** [RAL+08]. **Boole** [Nah13]. **Bounds** [Sha54a, SGB67a, SGB67b]. **box** [LM03]. **box-counting-based** [LM03]. **Breed** [Bar01]. **Bridging** [RS06]. **brief** [Cro01]. **Building** [Hag79]. **Builds** [Bar01]. **Bush** [Sha39].

**calculation** [Sha57b]. **Calculations** [HWO90, SGB02]. **calvarial** [RAL+08]. **cancer** [APMS+12]. **Candidates** [Pin01]. **Capacity** [Bot88, Sha56g, Sha56i, Sha57c, Sch06, Sha57b, SJ04, TT12]. **Capazität** [Sha57b]. **Case** [Hag79, Sha48a]. **cases** [Keyic]. **Cathode** [PST48]. **Cathode-Ray** [PST48]. **caused** [SBS+13]. **cellular** [RFME+12]. **Century**

[Sha63]. **Certain** [Sha48f, Sha57a]. **chain** [Koc05]. **chain-based** [Koc05]. **chains** [ZBM11]. **Channel**
[Sha48a, Sha56c, Sha56g, Sha56i, Sha57c, Sch06, Sha57b, Sha59c]. **Channels** [Sha58a, POA+08, Sha57a, Sha58b, Sha61, SGB67a, SGB67b, TT12]. **Characteristic** [Sen05]. **characterizing** [JGH00]. **chemical** [SSAK06]. **Chess** [Sha50b, Lev88, Sha50g]. **Chess-Playing** [Sha50b]. **China** [BQhH08]. **cipher** [AMS+10]. **Circuit** [HS46, MS53a, MS53b, MS53c, Sha53i, SM53]. **Circuits**
[MS54, OS44, Sha37, Sha38, Sha41b, Sha44e, Sha49f, Sha55e, MS56a, MS56b]. **classical** [SS07]. **classification** [APMS+12]. **Claude**
[TWA+87, Bar01, Bro11, CS01, Ell84, Gag98, Gal03, GBC+02, Gui03, Hor90, Jam09, Kha16, Nah13, NWV94, O'R12, Pin01, Pri85, Roc10, Sch06, Sha82a, Sla97, SW93, SF03, SK01]. **Closure** [Sha44c]. **Clustering** [DGH+06]. **coasts** [YLR+10]. **Cobol** [Bar01]. **Code** [OS46, Sha43b, Wri67]. **codes** [Sha59c]. **Coding**
[Bot88, Gol49, Sha40a, Sha48a, Sha53c, Sha54b, Sha55c, Sha59a, Sha59b, Sha60, TWA+87, Sha57a, SGB67a, SGB67b, Sha93, WMS+12, Zee02]. **codon** [FMSS03, Zee02]. **coherence** [LMC11, YN11]. **coherent** [RM06, YN11]. **collected** [SW93]. **Collection** [Bro11]. **Colleges** [HS54]. **colon** [APMS+12]. **Color** [Sha40a]. **coloring** [Sha49g]. **Combining** [Gor06]. **Communication**
[Hag79, OS46, Sha48b, Sha48c, Sha48h, Sha49a, Sha49b, SW49, Sha49d, Sha50f, Sha50i, Sha53a, SW71, SW76, SW83, Sha84a, Sha84b, Sha97, Sha98b, Sha98a, SW98, Sha01, Lyn77, Rog94, Sha58b, Sha61, SW63, SW64, SW69, SW72, SW75b, SW75a, SW78, SW81, Sla97, TT12, Yoc00, dPV00]. **Comparison** [GWZC12]. **comparisons** [AALR09]. **compendium** [Lev88]. **complete** [CHC+04, CHC+05]. **complex** [RFME+12, SSAK06]. **complexity** [LR05, SBS+13]. **component** [TKL+12]. **Components** [Sha56f]. **Compound** [WVB10]. **compounds** [SGB02]. **Computability**
[dLMSS54, dLMSS56]. **Computation** [Bar01, Sha50j, Ric03, Zee02]. **Computer** [Lap96, Lev88, Sha50g, Smi05, Pin01, Sha50j]. **Computers** [Sha53b, Sha53g, Sha63]. **Computing** [Bul15, DM15, LM03]. **comunicación** [SW81]. **comunicazioni** [SW71, SW83]. **Concavity** [Sha55b, SH56]. **concept** [GB00]. **Concepts** [Som09]. **conceptual** [Tim03]. **concerning** [Tho09]. **confidence** [MHBL12]. **confidentiality** [Gag98]. **configuration** [WBB+12]. **confined** [Sen05]. **Congress** [Bro11]. **Connected** [DS46, Sha07]. **Connection** [Pin01]. **connectivity** [RFME+12]. **conservation** [BQhH08]. **Consistency** [Sha41b]. **Contacts** [Sha53h]. **Content** [WVB10, Rif85]. **continued** [Sha48c]. **Continuous** [Sha43a]. **contributions** [Sha58c]. **Control** [BBS46, Sha49d, Sha51b]. **Controversies** [Bar01]. **conversation** [Ell84, Pri85]. **Corporation** [Pin01]. **correcting** [Wri67]. **correlation** [RD04]. **Counters** [Sha44b]. **Counting** [Sha44b, Sha44e, Koc05, LM03]. **created** [Nah13]. **Creative** [Sha52a]. **Criteria** [Sha41b]. **Criterion** [Sha59b, Sha60]. **critical** [ZBM11]. **Crossbar** [HS46]. **crossings** [GFD03]. **Crossword** [Efr08]. **Crummy** [MS54]. **Cryptography**

[Roc99, Sha45a, BB88]. **Cryptology** [Roc99]. **crystalline** [SBS+13]. **CSIDC** [Pin01]. **Cubic** [BERS86]. **Cubics** [Sha82b]. **Cybernetics** [DL63, Sha49d, Sha68a].

**Dartmouth** [MMS06]. **Data** [BBS46, Cor87, Sha41c, WVB10, Bla65, LCW+16, LHA+16]. **data-smoothing** [Bla65]. **database** [GB01]. **Days** [Bul15]. **decomposition** [MHBL12]. **Decrease** [Szi64]. **deep** [HGR+12]. **Deflection** [Sha41f, Sha41e]. **degree** [ABS11, YN11]. **Delay** [Sha56c]. **Delsarte** [AL07]. **demonstrating** [LHA+16]. **densities** [AALR09, Liu07]. **Dependent** [WVB10]. **Derivation** [BS50]. **Derivatives** [Sha54a]. **Description** [Sha50j]. **Descriptor** [WVB10, GB00]. **descriptors** [GB01, GPM06, SGB02]. **Desflurane** [BLR+02, BLR+01]. **Design** [Sha42, SM53]. **Detection** [Sha44a, HSBJ02, HTR+08, LMC11]. **detectors** [WBB+12]. **detects** [CFRC04]. **Determinate** [Sha45b]. **determined** [YLR+10]. **Deutung** [Sha57b]. **development** [Sle74]. **Developments** [Sha50f, Sha50i]. **Device** [PST48]. **diagnosis** [TKL+12]. **diagnostic** [Rif85]. **diatom** [Siq98]. **Dictionary** [Cor87]. **Dies** [Bar01]. **differences** [GB01]. **Differential** [GB01, Sha41g, Sha42, SGB02, Sha41d]. **Difficulty** [Efr08]. **diffusion** [LS10]. **Digital** [Bul15, Gol49, LP12, Sha50c, HDC96]. **dimension** [RAL+08, SBS+13]. **Dimensional** [Sha78, GWZC12, SJ04]. **dimensionality** [CS09, POA+08]. **Diorama** [Sha82a]. **Director** [Pin01]. **Director-Elect** [Pin01]. **discipline** [Mat94]. **Discrete** [Sha48g, Sha59a, Sha59b, Sha60, SGB67a, SGB67b]. **Discussion** [CMU+53]. **distinguish** [WMS+12]. **distinguisher** [AMS+10]. **Distortion** [Sha59a]. **distribution** [Di 00, NS12]. **Distributions** [WVB10, AALR09, GPM06]. **Divergence** [CCHL05]. **divergences** [AALR09]. **diversity** [BQhH08, BKU+94, De'12, Di 00, GB00, Gor06, ID00, Keyic, MHBL12, Ric03, RS06, Siq98, SF03]. **Division** [Pin01]. **Djingis** [NWV94]. **DNA** [Bar01, Zha09]. **Doppler** [HTR+08]. **Down** [Sha44b]. **Driver** [Sha78]. **Drop** [Sha82a]. **drug** [FCW+00]. **during** [RAL+08]. **dynamical** [RAL+07]. **dynamics** [Let06, LM03].

**E100** [LS35]. **E58** [SSS34]. **Early** [Bul15]. **earth** [Yoc00]. **Economic** [BQhH08]. **Editorial** [Sha56a, Sha84b]. **Education** [Hig63]. **EEG** [BLR+02]. **effect** [HGR+12]. **Effects** [BLR+02, BLR+01]. **Efficient** [Sha48a, Sha54b, Sha93]. **einem** [Szi29]. **Eingriffen** [Szi29]. **einiger** [Sha57b]. **Einstein** [New56, Per05]. **Elect** [Pin01]. **electric** [GFD03]. **Electrical** [MS53a]. **electroencephalographic** [BLR+01]. **electrogram** [GKL+13]. **electron** [GWZC12, RD04]. **Electronic** [Sha46]. **element** [BKU+94]. **Elementary** [LS35, SSS34]. **eleven** [Sha07]. **Elwood** [Bro11, Gal03, GBC+02, Jam09, SW93]. **EMC** [Pin01]. **Employing** [OS46]. **enabled** [WMS+12]. **encryption** [Gag98]. **engineer** [Nah13]. **Engineering** [Hag79, Smi05]. **England** [Sha78]. **English** [Sha51a]. **Enigma**

[Ano16, LHA+16]. **Ensembles** [Sha48e]. **entanglement** [POA+08, ZBM11]. **entropic** [NS12]. **entropies** [APMS+12, GWZC12, LR05, WMS+12, ZBM11]. **Entropieverminderung** [Szi29]. **Entropy** [BLR+02, GB01, HGR+12, JSMS12, LMC11, PGM+12, RFME+12, Sav64, Sha51a, Szi64, WVB10, ABS11, BLR+01, CFRC04, FMSS03, FCW+00, GKL+13, GB00, GFD03, GPM06, HTR+08, Keyic, Koc05, Let06, Liu07, LM03, MHBL12, Mat94, NS12, NS10, PP06, RAL+07, RM06, Ric03, RS06, RAL+08, SSK+05, Sen05, SK04, SS07, SBS+13, SGB02, SD96, Szi29, Szi76, TKL+12, WGB09, YN11, Zha09, dPV00, dTS+03]. **entropy-based** [CFRC04, WGB09]. **Entropy-TOPSIS** [JSMS12]. **Entstehung** [Hag79]. **Environmental** [YLR+10, JSMS12]. **Equation** [Sha42]. **Equations** [Far03, FS43, Ale03, Far02]. **Ergebnisse** [Sha57b]. **Ergodic** [Sha48e]. **Error** [Sha56c, Sha56i, Sha59c, SGB67a, SGB67b, Wri67]. **error-correcting** [Wri67]. **essential** [Gui03]. **Estimates** [Sav64]. **Estimating** [Let06]. **Europe** [FB69]. **evenness** [YLR+10]. **event** [dTS+03]. **event-related** [dTS+03]. **evidence** [Tho09]. **evolution** [HGR+12]. **Exact** [Cro63]. **Exam** [NWV94]. **Exchange** [Sha50d]. **expected** [ABS11]. **experiment** [YN11]. **Experimental** [LCW+16, Sha41e]. **Experimentally** [LHA+16]. **Expert** [Bar01, NWV94]. **Explicit** [Sha53e]. **Exposition** [Sha53a]. **expression** [SGG04]. **extension** [BB88].

**Fair** [Pin01]. **Fallstudie** [Hag79]. **fear** [NWV94]. **feature** [GPM06]. **features** [SSK+05, Sen05]. **February** [Jam09]. **Feedback** [Sha44c]. **female** [Di 00]. **Fibrillation** [LMC11, GKL+13]. **Fidelity** [Sha59b, Sha60]. **fields** [GFD03]. **Fifty** [Ver98]. **filter** [CFRC04]. **Finders** [Sha41f]. **Finding** [Bro11]. **Finds** [Bar01]. **fingerprint** [WGB09]. **Finite** [SK04, YCS12]. **Fire** [BBS46]. **Fire-Control** [BBS46]. **first** [Ric03]. **Fisher** [AALR09, HTR+08, Liu07, RD04, YCS12]. **Flaw** [Bar01]. **Flow** [EFS56, CSJJ10]. **flowmetry** [HTR+08]. **fluctuations** [RM06]. **fMRI** [dTS+03]. **foray** [Cro01]. **Forecaster** [Sha56e]. **forest** [BQhH08]. **Formal** [Som09]. **Formula** [Sha50h]. **formulate** [Sch06]. **Foundational** [Tim02]. **founder** [Sch06]. **Four** [DS46]. **Four-Terminal** [DS46]. **Fourier** [JGH00]. **Fourth** [Sha78]. **Fourth-Dimensional** [Sha78]. **Fractal** [SBS+13, RAL+08]. **fractional** [CS09]. **free** [SS07]. **French** [SW75a]. **Frequencies** [PGM+12]. **Fresnel** [LP12]. **Function** [Sha55b, LMC11]. **Functions** [Sha48e, Sha53h, Sha55d, SH56]. **Fundamentals** [Sha53a]. **Funding** [Pin01].

**Game** [Sha55a]. **Ganga** [JAS89]. **gap** [RS06]. **Gaussian** [Koc05, RM06, Sha59c]. **geheime** [Roc10]. **Gene** [DGH+06, MBD+03, SGG04]. **General** [Cro63, Sha53c, Som09, NS12]. **Generalization** [BB88]. **Generalizations** [Sha48i]. **generalized** [Keyic]. **generation** [Lyn77]. **genes** [JGH00]. **genesis** [Tho09]. **Genetics** [Sha40c, Cro01]. **Genghis** [NWV94]. **genome** [Zha09]. **genomes** [ABS+13, CHC+04, CHC+05, CCHL05, JGH00, Zee02]. **Geometrical**

[Sha56g, Sha57c, Sha57b]. **Geometrische** [Sha57b]. **George** [Nah13]. **German** [Hag79, Roc10, Sha50f, Sha57b, SM74, SW76, Szi29]. **Geschichte** [Roc10]. **Give** [Sha53e]. **Go** [Bar01]. **Goals** [Pin01]. **Graph** [AL07, APMS+12]. **Great** [DM15, Far03, Lap96, Far02, Pic08]. **grooming** [Di 00]. **Grundlagen** [SW76]. **Gunfire** [BBS46].

**Hanoi** [Sha53k]. **Haplotype** [PGM+12]. **Harvard** [Sha50j]. **Hawking** [Pic08]. **healthy** [HTR+08]. **Height** [Sha41c]. **Helleh** [JSMS12]. **Hellman** [BB88]. **hepatitis** [HGR+12]. **heterogeneous** [ABS11]. **Hickman** [Sha40b]. **High** [Pin01, CFRC04, HTR+08, LS10, SGB02]. **high-quality** [CFRC04]. **high-values** [HTR+08]. **highly** [SBS+13]. **Historical** [Cor87]. **history** [Roc10, Rog94]. **Hla** [PGM+12]. **Hoffman** [AL07]. **holography** [LP12]. **homologues** [CFRC04]. **Host** [RFME+12]. **human** [APMS+12, Zee02]. **hyperentanglement** [CS09]. **hypotheses** [Di 00].

**Ideal** [Sha48j, Sha55c, Sha55e]. **identification** [FCW+00]. **identifies** [SGB02]. **IEEE** [Pin01]. **II** [MS56b, SGB67b, Wri67]. **illumination** [YN11]. **imaging** [SJ04, YN11]. **implanted** [SBS+13]. **implications** [GKL+13, Lyn77]. **inadequacy** [Tim03]. **including** [Rif85]. **incontinence** [TKL+12]. **Increases** [Pin01]. **Increasing** [CS09]. **independent** [Rif85]. **Index** [JAS89, BQhH08, BKU+94, Di 00, Gor06, ID00, Keyic, Lei07, Pla06, RS06, Siq98, SF03, WC99, Zha09]. **India** [JAS89]. **indicator** [GFD03]. **indice** [Pla06]. **indices** [Gor06]. **individual** [dPV00]. **induced** [SBS+13]. **Industrial** [Hag79]. **Industrie** [Hag79]. **Industrie-** [Hag79]. **Industry** [RFME+12]. **Inference** [Pla06, Wri67]. **Inferencia** [Pla06]. **inflammatory** [SBS+13]. **Inform** [San05]. **Information** [Ano53, Cro63, DGH+06, DL63, HWO90, Sav11, Sha49c, Sha50c, Sha52b, Sha53d, Sha56b, Sha58a, Sha59a, Sha68b, Som09, Tim02, WVB10, Zee02, ABS+13, Ale03, CHC+04, CHC+05, CCHL05, GWZC12, Gui03, HSBJ02, HTR+08, JGH00, Lei07, Liu07, LR05, LS10, Lyn77, MBD+03, Nah13, Rif85, Roc10, RD04, SSAK06, Sch06, Sen05, SK04, Sle74, SJ04, SD96, Tho09, Tim03, YCS12, Col93, Roc10, Sha56d, Som09]. **Informationskonzepten** [Hag79]. **Informationstheorie** [SW76]. **Infrequent** [Sha54b, Sha93]. **Input** [Sha55b]. **integral** [SJ04]. **integrated** [JSMS12]. **Integration** [FS43, Sha50h]. **intellectual** [FB69]. **intelligence** [MMS06]. **Intelligent** [Szi64, Szi29, Szi76]. **intelligenter** [Szi29]. **interference** [Szi29, Szi76]. **Internal** [Sha54c, Sha56h]. **International** [Pin01]. **interpolation** [Mar91, Mar93]. **interval** [MHBL12]. **Intervention** [Szi64]. **Interview** [TWA+87]. **Introduction** [Mar91, TWA+87]. **Intuitive** [Roc99]. **invasive** [TKL+12]. **Invests** [Pin01]. **Involvement** [Pin01]. **Iran** [JSMS12]. **Irving** [TWA+87]. **Italian** [SW71, SW83]. **Iterative** [WVB10].

**Jensen** [AALR09]. **John** [UKTS68, UK+69]. **Juggling** [Sha80, Sha82a].

**Kanal** [Sha57b]. **Kelly** [Sha56d]. **Key** [Sle74]. **Khan** [NWV94]. **Kiss** [Sha49e]. **Koehler** [YN11]. **Kommunikation** [Sha50f]. **Korean** [YLR+10]. **Kriegsforschung** [Hag79]. **kth** [Koc05]. **kth-order** [Koc05].

**Laboratory** [HS54, Sha50j]. **Lakatos** [Sha40b]. **Language** [Sav64]. **Large** [DS46]. **laser** [HTR+08]. **Lattice** [Sha53d]. **Lattices** [Sha49e]. **laws** [ID00, Pic08]. **Leap** [Ano16]. **Learning** [Hig63]. **Least** [BS50]. **Leben** [Roc10]. **Lecture** [TWA+87]. **Lectures** [Hig63]. **Legal** [RFME+12]. **Legal-Social** [RFME+12]. **less** [MS56a, MS56b]. **Letter** [Sha39, TWA+87]. **levels** [SGG04]. **library** [New56, Bro11]. **life** [Mat94, Roc10, Yoc00]. **light** [RM06]. **Like** [Bot88]. **limit** [TT12]. **Limited** [Sha54a]. **limits** [LP12]. **line** [HTR+08]. **Linear** [Bla65, BS50, BERS86, DS46, Sha41g, Sha42, TT12]. **lines** [Sha49g]. **linking** [De'12]. **literature** [Mat94, New56]. **LMC** [LR05]. **locking** [LCW+16, LHA+16]. **Logarithmic** [ZBM11]. **Logic** [Sha49e]. **logician** [Nah13]. **London** [Ano53]. **Loop** [Sha44c]. **Lower** [SGB67a, SGB67b].

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