

307-75-1
May 1956

Nelen Barr
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5/16/56

SCIENTIFIC & ENGINEERING APPLICATIONS PROBLEMS
(* - Staff Member, Project on Machine Methods of Computation)

A implies the problem is NOT for academic credit, is UNSponsored,
B implies the problem IS for academic credit, is UNSponsored,
C implies the problem is NOT for academic credit, IS sponsored,
D implies the problem IS for academic credit, IS sponsored,
N implies the problem is MIT ONR sponsored research,
L implies the problem is sponsored by Lincoln Laboratory.

| No. | Problem Title | Programmer or Originator | Started | Completed |
|----------|---|---|---------|-----------|
| 100. | Comprehensive System of Service Routines | Staff DCL | 1-2-53 | |
| 101 N. | Optical Properties of Thin Metal Films | A.D. Loeb Lincoln Lab. | 1-2-53 | |
| 102 B,N. | Scattering of Electrons from Gases | *J. Uretsky Physics Dept. | 1-2-53 | 6-11-53 |
| 103 D. | Transmission Cross Section of Absorbing Sphere | J.C. Johnson Meteorology Dept. | 1-2-53 | 3-26-53 |
| 104 D. | Hydro Thermal Power System; Calculus of Variations | P. Schweitzer E.E. Dept. | 1-2-53 | 6-27-53 |
| 105 C. | Crystal Structure: Fourier Series Summation | S.C. Abrahams Lab. For Insulation Res. | 1-2-53 | 1-29-53 |
| 106 C. | MIT Seismic Project | S. Simpson Geol. & Geophysics | 1-2-53 | |
| 107 C. | (a) Autocorrelation and (b) Fourier Transform, Evaluate Integrals | D.T. Ross Servo. Lab. | 1-2-53 | |
| 108 C. | An Interpretive Program | J.H. Laning, Jr. Instrumentation Lab. | 1-2-53 | |
| 109 C. | Fighter Gunsight Calibration, 8th Order D.E. | M.H. Hellman Instrumentation Lab. | 1-2-53 | 5-30-53 |
| 110 C. | Mk. 47 Evaluation | T. Pitcher Instrumentation Lab. | 1-2-53 | 2-16-53 |

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| 111 C. | Fourier Analysis - Autocorrelation Problem | E.J. Frey Instrumentation Lab. | 1-2-53 | 7-12-53 |
| 112 C. | Lawley's Method of Factor Analysis | F.M. Lord Ed. Testing Service | 1-2-53 | 1-24-54 |
| 113 C. | Shear Wall Analogy, Simultaneous Linear Equations | *S.H. Sydney Civil Eng. | 1-2-53 | 6-13-54 |
| 114 C. | Design of Optical Instruments | F. Wachendorf Retina Foundation | 1-2-53 | 9-5-53 |
| 115 D. | Transient Aerodynamic Heating of a Flat Plate | G. Isakson Aeroelastic Lab. | 1-2-53 | 2-27-53 |
| 116 C. | Torpedo Impulse Response | R. Kramer Servo. Lab. | 1-2-53 | 2-7-54 |
| 117 | Speech Output; Counting and Assembly | R.P. Mayer DCL | 12-1-52 | 2-26-53 |
| 118 C. | Quantized Group Communication and Learning | R.D. Luce RLE | 3-12-53 | 6-28-53 |
| 119 C. | spherical Wave Propagation | *A. Ralston Math. Dept. | 1-2-53 | 6-13-54 |
| 120 B,N. | Thermodynamic and Dynamic Effects of Water Injection Into High-Temperature High-Velocity Gas Streams | A. Erickson Mech. Eng. | 11-6-52 | |
| 121 L. | Determination of Weak Signal Plus Noise Probability Functions | G.C. Sponsler DDL | 1-29-53 | 9-22-53 |
| 122 W. | Coulomb Wave Functions | *A. Temkin Physics Dept. | 1-29-53 | |
| 123 B,N. | Earth Resistivity Interpretation | *K. Vozoff Geol. & Geophysics | 2-2-53 | 5-29-55 |
| 124 B. | Deuteron Binding Energy and Wave Functions | D. Combelic DCL | 1-30-53 | 6-14-53 |
| 125 B. | Analytical Differentiation | J.F. Nolan Math. Dept. | 2-25-53 | 5-31-53 |

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| 126 C. | Data Reduction | D.T. Ross Servo. Lab. | 3-26-53 | |
| 127 A. | Finite Bending of Circular Ring Plate Due to Edge Moments | *N.J. Hicks Math. Dept. | 2-12-53 | 7-16-54 |
| 128 B. | M.I.T. Course 6-537 Spring 1953 (Digital Computer Applications Practice) | C.W. Adams DCL | 2-10-53 | 7-16-54 |
| 129 A. | M.I.T. Course 6.68 Special Problem (Round-off Error Study) | D. Wong E.E. Dept. | 2-27-53- | 3-12-53 |
| 130 B,N. | Six-component Distillation, Variable Enthalpy and Equilibrium Data: Simultaneous Non-linear Equations | *J.F. O'Donnell Chem. Eng. | 2-12-53 | 2-20-55 |
| 131 | Special Problems (Staff Training, Demonstrations, Etc.) | Staff DCL | 3-12-53 | |
| 132 D. | Subroutines for the Numerically Controlled Milling Machine | J.H. Runyon Servo. Lab. | 3-26-53 | 8-21-55 |
| 133 B. | Non-linear Meson Equation | D. Finkelstein Physics Lab. | 3-26-53 | 7-17-54 |
| 134 N. | Numerical Diagonalization Procedure | A. Meckler SS&MT | 5-7-53 | 5-16-54 |
| 135 B. | Speech Analysis | C. Hughes, RIE J. Forgie, DCL | | |
| 136 | Matrix Equations | D. Arden, DCL | 5-31-53 | 8-8-54 |
| 137 D. | Investigation of Atmospheric Turbulence; Autocorrelation, Crosscorrelation and Fourier Transforms | R. Summers Instrumentation Lab. | 5-31-53 | 12-19-53 |
| 138 B,N. | Spheroidal Wave Functions | *J.D.C. Little *F.J. Corbato Physics | 6-14-53 | 2-21-54 |
| 139 D. | Line Shape Calculation | J. Sternberg Harvard Chem. Dept. | 6-14-53 | 8-23-53 |
| 140 | Summer Session System 1953 | Staff DCL | 6-3-53 | 8-8-54 |

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| 141 | S&EC Subroutine Study | J. Roseman, DCL | 6-23-53 | |
| 142 D. | A Study of Shock Waves | *S.H. Sydney R. Bart Chem. Eng. | 7-26-53 | 11-1-53 |
| 143 D. | Vibrational Frequency Spectrum of a Copper Crystal | E.H. Jacobsen MIT X-ray Group | 9-6-53 | 9-15-54 |
| 144 N. | Self-consistent Molecular Orbital | A. Meckler, SS&MT | 8-9-53 | 9-4-54 |
| 145 B. | Evaluation of Second-order Temperature Diffuse Scattering from Zinc | R. Joyanson MIT X-ray Group | 9-6-53 | 9-19-53 |
| 146 N. | Largest Eigenvalue of Real, Symmetric Matrix | A. Temkin, Physics | 9-6-53 | 10-17-53 |
| 147 N. | Energy Bands in Crystals | D. Howarth, SS&MT | 9-6-53 | 8-8-54 |
| 148 A. | Aerodynamic Theory-Elliptic Boundary Value Problem | *H. Glantz, Math.Dept. | 9-25-53 | 10-1-53 |
| 149 L. | Digital Methods of Detecting Signal from Noise | G. Dineen, DDL | 9-28-53 | 7-11-54 |
| 150 | Drum Comprehensive System of Service Routines | DCL Staff | 6-1-53 | |
| 151 B. | NIM | D. Sternlight E.E. Dept. | 10-1-53 | 10-1-53 |
| 152 B,N. | Diffusion in an Oxide Coated Cathode | H.B. Frost, DCL | 10-13-53 | 3-12-54 |
| 153 C. | Gust Response; Simultaneous Linear Integro-differential Equations | K.A. Foss Aero. Eng. | 10-14-53 | 3-10-54 |
| 154 L. | Magnetic Susceptibility Evaluation | J.O. Artman, DDL | 12-22-53 | 12-31-53 |
| 155 N. | Synoptic Climatology | K. Bryan, Meteorology | 12-6-53 | 1-13-56 |
| 156 A. | Evaluation of the Reflection Coefficient in a Semi-Infinite Rectangular Wave Guide | M. Balsler, DDL | 12-6-53 | |
| 157 N. | Rectangular Matrix Multiplication | A. Meckler, SS&MT | 12-6-53 | 1-54 |
| 158 B. | Relay Servo Response | J.W. Stearns, Servo.Lab. | 1-16-54 | 1-30-54 |
| 159 D. | Water Use in a Hydroelectric System | J.D.C. Little, Physics | 1-8-54 | 11-30-54 |

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| 160 N. | Similarity Transformation of a Matrix | A. Meckler, SS&MT | 1-12-54 | 3-54 |
| 161 N. | Response of Mass-Plastic Spring System to Transient Loading | *S.H. Sydney Chem. Eng. | 1-6-54 | 5-16-54 |
| 162 N. | Determination of Phase Shifts from Experimental Cross-Sections | F.J. Epling B. Campbell | 1-14-54 | |
| 163 L. | Ferrite Phase Shifters in Rectangular Wave Guide | K.J. Button, DDL | 1-6-54 | Lapsed |
| 164 N. | Partial Cross Sections | W.H. Kleiner, SS&MT | 1-27-54 | 1-27-54 |
| 165 N. | Numerical Double Integration | H.C. Schweinler G.F. Koster SS&MT | 1-27-54 | 1-27-54 |
| 166 C. | Construction and Testing of a Delta-Wing Flutter Model | M.M. Chen Aero-elastic Lab. | 2-1-54 | 11-28-54 |
| 167 B,N. | Products of Batch Distillations with Holdup | *J.F. O'Donnell Chem. Eng. | 2-1-54 | 3-6-55 |
| 168 D. | Indicial Downwash Behind a Two-Dimensional Wing | N.P. Hobbs, Aero. Eng. | 2-1-54 | |
| 169 B,N. | Utilizing a General Purpose Digital Computer in Switching-Circuit Design | *E.C. Hoy E.E. Dept. | 2-23-54 | 8-22-54 |
| 170 N. | Inverse and Inverse Square Root of a Symmetric Matrix | A. Meckler, SS&MT | 3-1-54 | 4-4-54 |
| 171 C. | Improved Power Spectra Estimates | D.T. Ross, Servo. Lab. | 3-19-54 | 9-4-54 |
| 172 B,N. | Energy Bands in Graphite | *F.J. Corbato, Physics | 3-15-54 | |
| 173 B. | Course 6.537 Digital Computer Application Practice Spring 1954 | C.W. Adams | 3-15-54 | 9-18-54 |
| 174 N. | Tight Binding Calculations in Crystals | G.F. Koster, SS&MT | 3-24-54 | 9-4-54 |
| 175 N. | Impurity Levels in Crystals | G.F. Koster, SS&MT | 3-24-54 | 8-8-54 |
| 176 B. | Connector Provision in Automatic Telephone Exchanges | B. Marrows, E.E. Dept. | 3-26-54 | 6-27-54 |
| 177 C. | Low Aspect Ratio Flutter | J. Martucelli, Aero.Eng. | 3-29-54 | 12-20-55 |

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| 178 D. | Trajectory Study Against an Evading Target | C. Block Instrumentation Lab. | 4-1-54 | 5-2-54 |
| 179 C. | Transient Temperature of a Box-Type Beam | J.C. Loria Aero-elastic Lab. | 4-2-54 | |
| 180 B. | Crosscorrelation of Blast Furnace Input-Output Data | R.G. Mills, E.E. Dept. | 4-5-54 | 5-1-55 |
| 181 C. | Perturbed Coulomb Wave Functions | R. Zimmerman Nuclear Science Lab. | 4-8-54 | 6-11-54 |
| 182 C. | Crystal Structures (KEEP TAPES) | S.C. Abrahams Insulation Lab. | 4-4-54 | 5-16-54 |
| 183 D. | Blast Response of Aircraft | H. Lin, Aero-elastic | 4-22-54 | 1-23-55 |
| 184 B,N. | Scattering of Electrons from Hydrogen | *M.C. Newstein, Physics | 4-30-54 | 11-30-54 |
| 185 B. | A Scale of Turbulence | J. Howcroft J. Smith Meteorology | 5-10-54 | 7-25-54 |
| 186 B,L. | Tracking Response Characteristics of the Human Operator | J. Elkind, DDL | 5-13-54 | 12-26-54 |
| 187 C. | Response of a Fuel-flow Controller | C. W. Steag, Jr., DAOL | 5-21-54 | 6-27-54 |
| 188 C. | Effect of Gravity on Relative Water Production in Oil Reservoirs | L.R. Kern Atlantic Refining Co. | 5-24-54 | Lapsed |
| 189 C. | Distribution of Gustiness in the Free Atmosphere | A. Fleisher, Meteorology | 5-25-54 | 1-5-55 |
| 190 D. | Zeeman and Stark Effect in Positronium | H. Kendall, Physics | 5-26-54 | 10-2-54 |
| 191 B. | Earthquake Epicenter Location by Geiger's Method | D.B. Grine Geol. & Geophysics | 5-28-54 | 10-3-54 |
| 192 D. | Frequency and Phase Spectrum Analysis of Seismograms | W. Walsh, Geol. & Geophysics | 6-13-54 | 8-8-54 |
| 193 L. | Eigenvalue Problem for Propagation of E.M. Waves | H.B. Dwight, DDL | 5-16-54 | |
| 194 B,N. | An Augmented Plane Wave Method as Applied to Sodium | M.M. Saffran, SS&MT | 6-30-54 | |

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| 195 C. | Intestinal Motility | Dr. J.T. Farrar Mass. Mem. Hospitals | 7-25-54 | 7-24-55 |
| 196. | Single Address Computer | DCL Staff | 7-25-54 | 5-1-55 |
| 197. | Three Address Computer | DCL Staff | 7-11-54 | 11-28-54 |
| 198. | Student Problems Coded for SAC and TAC | DCL Staff | 8-22-54 | 6-26-55 |
| 199 N. | Laminar Boundary Layer of a Steady, Compressible Flow in the Entrance Region of a Tube | T. Y. Toong Mech. Eng. | 7-25-54 | |
| 200 L. | A Study of Recurrent Events | B. Jensen, DDL | 7-25-54 | 10-17-54 |
| 201 N. | Study of the Ammonia Molecule | A. Meckler, SS&MT | 7-25-54 | |
| 202 L. | Calculation of Vertical Antenna Coverage Skeleton | A.F. Bartholomay, DDL | 8-22-54 | 9-18-54 |
| 203 C. | Response of a Multi-Story Frame Building Under Dynamic Loading | *R.G. Gray, Civil Eng. | 9-18-54 | |
| 204 N. | Exchange Integrals Between Real Slater Orbitals | P. Merryman, Jr. Univ. of Chicago | 7-22-54 | |
| 205 B,N. | Electron Lattice Interaction in Solids | A. Meckler, SS&MT | 7-26-54 | |
| 206 N. | Electronic Energies of the Molecule H ₂ | A. Dalgarno, SS&MT | 7-21-54 | 9-4-54 |
| 207 C. | Check for REAC | E.H. Larson Flight Control Lab. | 7-29-54 | 11-14-54 |
| 208 C. | Interceptor Flight Control Problem | L. Harris C.W. Steeg DACL | 9-9-54 | 12-15-54 |
| 209 A. | Numerical Solution on Homogeneous Linear Differential Equations with Quadratic Polynomial Coefficients | J.C.P. Miller Camb. Univ., England | 9-8-54 | 10-3-54 |
| 210 A. | Residue-Indices and Primitive Roots | J.C.P. Miller Camb. Univ., England | 9-9-54 | 10-17-54 |
| 211 C. | Servo Response to a Cosine Pulse | J.M. Stark Instrumentation Lab. | 9-10-54 | 12-26-54 |

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| 212 B,N. | Dispersion Curves for Seismic Waves: Multilayered Media | *K. Vozoff, Geol. Geol. & Geophysics | 9-23-54 | 7-10-55 |
| 213 D. | Industrial Process Control Studies | J.B. Reswick, Mech.Eng. | 9-23-54 | 5-15-55 |
| 214 A. | Interval Distribution | D. Davies, Visiting Fellow, Commonwealth Fund | 10-1-54 | 10-17-54 |
| 215 B. | Dynamic Behavior of Industrial Processes | S.G. Margolis, RLE | 10-11-54 | 12-26-54 |
| 216 C. | Ultrasonic Delay Lines | D. Arenberg Arenberg Ultrasonic Lab. | 10-11-54 | |
| 217 N. | Variation-Perturbation of Atomic Wave Function and Energies | *A. Tubis, Physics | 10-26-54 | |
| 218 N. | Transformation of Integrals for Diatomic Molecules | R. Nesbet, SS&MT | 11-4-54 | |
| 219 | Comparison of Simplex and Relaxation Methods in Linear Programming | D. Arden, DCL | 11-9-54 | |
| 220 A. | Problem Arising from an Algebra | D. Davies Visiting Fellow Commonwealth Fund | 10-4-54 | 10-31-54 |
| 221 B. | Course 6.25, 1954 | C.W. Adams | 11-12-54 | 1-23-55 |
| 222 C. | Helicopter Rotor Stability | Y. Shulman Aero-elastic Lab. | 11-12-54 | 1-23-55 |
| 223 B,N. | Investigation of Turbulent Flow | F. Raichlen Hydrodynamic Lab. | 11-12-54 | 3-6-55 |
| 224 N. | Computation of the fields of vertical velocity and horizontal divergence | W. Wolf, Meteorology | 11-17-54 | 7-24-55 |
| 225 B,N. | Neutron-Deuteron Scattering | *L. Sartori, Physics | 11-17-54 | |
| 226 D. | Investigation of the Vorticity Field in the General Circulation of the Atmosphere | D. Cooley R. Pffefer Meteorology | 11-18-54 | |
| 227 N. | Determination of the Critical Buckling B^2 | *M. Treost, Chem. Eng. | 11-24-54 | |

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| 228 N. | Evaluation of Difference Diffusion Equation | *A.T. Ling, Mech. Eng. | 11-30-54 | 5-29-55 |
| 229 D. | Rotating Contact Seal | J.M. Bonneville Mech. Eng. | 11-30-54 | 12-26-54 |
| 230 C. | Dynamic Analysis of Bridges | S. Nanyet, Civil Eng. | 11-20-54 | 5-15-55 |
| 231 B,N. | Reactor Runaway Prevention | *M. Troost, Chem. Eng. | 12-2-54 | |
| 232 B. | Energy Levels in a Spheroidal Potential | K. Gottfried Lab. for Nuclear Science | 12-3-54 | 4-3-55 |
| 233 C. | Utility Stock Prices | D. Durand School of Ind. Mgt. | 12-8-54 | 3-6-55 |
| 234 N. | Atomic Integrals | R. Nesbet, SS&MT | 12-16-54 | |
| 235 B,N. | Eigenvalues for a Spheroidal Square Well | *J. Uretsky, Physics | 12-17-54 | |
| 236 C. | Transient Response of Aircraft Structures to Aerodynamic Heating | L. Schmit, Aero-elastic Lab. | 1-3-55 | |
| 237 C. | Autocorrelation Function of Submitted Data | D. Goldenberg Instrumentation Lab. | 1-3-55 | 2-6-55 |
| 238 B,N. | Self-consistent Calculation of Nuclear Mass Density | *M. Rotenberg, Physics | 1-4-55 | 7-10-55 |
| 239 C. | Guidance and Control | J.H. Laning, Jr. Instrumentation Lab. | 1-5-55 | |
| 240 A. | Number distribution of Electrons and Photons in Cascade | *B. Rankin, Math. Dept. | 1-10-55 | |
| 241 B. | Transients in Distillation Columns | S.H. Davis, Jr. Chem. Eng. | 1-10-55 | |
| 242 N. | Number of Structures of Relations on Finite Set | *M.D. McIlroy, Math. | 1-12-55 | 6-25-55 |
| 243 D. | Crystal Filters | H. Paul D. Kosowsky | 1-14-55 | 1-23-55 |
| 244 C. | Data Reduction for X-1 Fire Control | J. Stark Instrumentation Lab. | 1-14-55 | |

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| 245 N. | Theory of Neutron Reactions | H. Feshbach B. Campbell | Physics | 1-14-55 | |
| 246 B,N. | Scattering from Oxygen | *A. Tenkin, | Physics | 1-24-55 | |
| 247 C. | Surface Pressure Prediction | J.G. Bryan, | Meteorology | 1-25-55 | 4-17-55 |
| 248 B. | Normal Vibration Spectra of n-propane | Grace Hall Boston Univ., | Physics | 1-26-55 | |
| 249 C. | Flight Interceptor Control | K. Kavanagh, | DACL | 1-27-55 | 2-20-55 |
| 250 C. | Translation Program for the NCM | A. Siegel, | DCL | 1-31-55 | 6-12-55 |
| 251 B. | Dynamics and Control of Packed Distillation Columns | H. Teager, | E.E. Dept. | 1-20-55 | 3-6-55 |
| 252 N. | Analysis of Two Story Steel Frame Building | *C.W. Johnson, | Civil Eng. | 2-1-55 | 5-29-55 |
| 253 N. | APW as Applied to Face- and Body-Centered Iron | J. Wood, | SS&MT | 2-4-55 | |
| 254 D. | Thermal Stresses in a Flat Slab | J. Cheatham, | Civil Eng. | 2-7-55 | 2-20-55 |
| 255 C. | Energy Transfer in Biological Substances | G. Karreman, | Woods Hole Lab. for Muscle Research | 2-8-55 | 2-9-55 |
| 256 C. | WVI-1103 Translation Program | J. Frankovich F. Helwig | DCL | 2-10-55 | |
| 257 C. | Horizontal Stabilizer Analysis | E. Criscione Aero-elastic Lab. | | 2-17-55 | |
| 258 C. | Dynamic Analysis of a Typical Aircraft Interceptor | K. Kavanagh, | DACL | 3-10-55 | 7-24-55 |
| 259 L. | Ionosphere Computation | D.G. Brennan, | DDL | 2-23-55 | 10-16-55 |
| 260 N. | Energy Levels of Diatomic Hydrides | G. Koster A. Freeman | SS&MT | 2-24-55 | |
| 261 C. | Fourier Synthesis for Crystal Structures | M.J. Buerger | Geol. & Geophysics | 2-24-55 | |
| 262 N. | Evaluation of Two-Center Molecular Integrals | H.A. Aghajanian, | SS&MT | 2-25-55 | |

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| 263 C. | Flight Path of an Aircraft During Pullup | C. Hlock Instrumentation Lab. | 2-25-55 | 6-26-55 |
| 264 C. | Optimization of Alternator Control System | J. Dennis D.C. White | 2-18-55 | |
| 265 L. | Electron Diffusion in an Electromagnetic Field | S. Drell, Physics | 2-18-55 | 6-26-55 |
| 266 A. | Calculations for the MIT Reactor | T. Cantwell, Chem. Eng. | 3-11-55 | |
| 267 B. | Numerically Controlled Milling Machine Turbine Blade | G. Bromfield Bus. & Eng. Admin. | 3-11-55 | 9-4-55 |
| 268 B. | Extrapolation Techniques | S. Petrick, E.E. Dept. | 3-14-55 | 5-2-55 |
| 269 D. | Dynamic Behavior of Shear Wall Testing Machine | * C. W. Johnson Civil Eng. | 3-10-55 | 8-21-55 |
| 270 B. | Critical Mass Calculations for Cylindrical Geometry | J.R. Powell, Chem. Eng. | 3-11-55 | |
| 271 B. | Evaluation of a Beam Splitting Technique | P.F. Engel, E.E. Dept. | 3-22-55 | 8-21-55 |
| 272 L. | General Raydist Solution (Project DIC3-7009) | G.C. Sponsler, DDL | 3-30-55 | 4-30-56 |
| 273 W. | Analysis of Air Shower Data | G. Clark, Physics | 3-31-55 | |
| 274 W. | Multiple Scattering of Waves from a Spatial Array of Spherical Scatterers | P.M. Morse, Physics M. Karakashian, JCG | 3-31-55 | |
| 275 B. | Buckling of Shallow Elastic Shells | A. Ralston, Math. Dept. | 3-31-55 | 3-20-56 |
| 276 N,B. | Correlation of the Martensitic Transformation in Stainless Steel | F.G. Monkman Metallurgy Dept. | 4-11-55 | 8-7-55 |
| 277 C. | Horizontal Stabilizer Modes, Shapes, and Frequencies | K. Wetmore Aero-elastic Lab. | 4-12-55 | |
| 278 W. | Energy Levels of Diatomic Hydrides LiH | A. Karo, SS&MF | 4-12-55 | |
| 279 D. | Queueing | R.M. Oliver, Op. Res. | 4-14-55 | |
| 280 B. | Correlation Function | P. Hanna, Meteorology | 4-14-55 | |

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| 281 C. | Correlations and Transforms | T.P. Goodman, Mech.Eng. | 4-15-55 | 5-15-55 |
| 282 B. | Helicopter Blade Flapping Instability | P. Arcidiacono Aeronautical Eng. | 4-15-55 | 6-12-55 |
| 283 B. | Information Handling in Task Groups | R.M. Oliver, Op. Res. | 4-25-55 | 5-29-55 |
| 284 C. | Interaction of Ocean and Atmosphere and Forecasting the Motion of the Gulf Stream | A. Faller, Woods Hole Oceanographic Inst. | 4-25-55 | 11-13-55 |
| 285 N. | APW Method as Applied to Chromium Crystal | M.M. Saffren, SS&MT | 2-17-55 | |
| 286 B. | Response of the Human Pilot in a Day Superiority Type Fighter Flying a Lead Pursuit Course | Banks and Spangenburg C. Block Instrumentation Lab. | 4-26-55 | 5-29-55 |
| 287 D. | Sampled-Data Contactor Servomechanism | D. Chesler, E.E. Dept. | 4-26-55 | 5-15-55 |
| 288 N. | Atomic Wave Functions | R. Nesbet, SS&MT | 4-28-55 | |
| 289 C. | Heat Transfer through High-Speed Laminar Boundary Layers | J. Hill, Naval Supersonic Lab. | 5-3-55 | 5-29-55 |
| 290 N. | Polarizability Effects in Atoms and Molecules | L.C. Allen, SS&MT | 5-4-55 | |
| 291 B. | Dynamic Buckling | R. Jones, Civil Eng. | 5-4-55 | 10-15-55 |
| 292 A. | Course 6.535, Spring 1955 Practice | D.N. Arden | 5-10-55 | 6-12-55 |
| 293 C. | Rolling Bearings | A. Shashaty, Mech.Eng. | 5-10-55 | |
| 294 C. | Wind Tunnel Data Reduction | L. Schindel Naval Supersonic Lab. | 5-12-55 | 5-29-55 |
| 295 C. | Electron Collision Frequency | H. Paul, RIE | 5-27-55 | 7-10-55 |
| 296 C. | System Analysis | W. Kehl, Instrumentation | 6-1-55 | 6-26-55 |
| 297 B. | Diffusion Boundary Layer | J. Baron Naval Supersonic Lab. | 5-23-55 | |
| 298 A. | Dipole Moments | B. Moiseiwitsch, FSSP | 6-28-55 | 8-30-55 |
| 299 B. | Heat Transfer in Turbulent Flow | A. Turano, Chem. Eng. | 6-3-55 | 10-2-55 |

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| 300 L. | Tropospheric Propagation | H.B. Dwight, Lincoln | 6-21-55 | |
| 301 C. | Fourier Synthesis | D. Shoemaker Chemistry Dept. | 6-22-55 | 8-7-55 |
| 302 B. | Partially Continuous Wooden Beams | M. Barkan Civil Eng. | 7-1-55 | 9-18-55 |
| 303 B. | Prediction of Chromatographic Separations | J. Fischer Chem. Eng. | 7-6-55 | 8-22-55 |
| 304 C. | Relativistic Atomic Wave Functions | C. Schwartz, RLE | 7-8-55 | 12-16-55 |
| 305 B. | Course 6.25, Summer 1955 | W. Eccles, E.E. Dept. | 7-8-55 | 7-24-55 |
| 306 D. | Spectral Analysis of Atmospheric Data | B. Saltzman Meteorology Dept. | 6-29-55 | |
| 307 C. | Supersonic Nozzle Design | J. Baron Naval Supersonic Lab. | 7-15-55 | |
| 308 A. | Frequency Analysis of Aperiodic Functions | J. Rosenan, DCL | 7-18-55 | |
| 309 B,N. | Pure and Impure Potassium Chloride Crystal | L.P. Howland, SS&MT | 7-22-55 | |
| 310 C. | Trajectory Calculations for a Rocket during Powered Flight | J. Frigge G. Sutton Aerophysics Res. Grp. | 7-25-55 | 10-30-55 |
| 311 N. | Solitary Wave Generating Cam | D. Taylor J. Housley Civil Eng. | 7-28-55 | 9-18-55 |
| 312 L. | Error Analysis | L. Peterson E. Hutcheson | DDL 8-12-55 | |
| 313 D. | Routines for Course 6.601 | A. Siegel, DCL | 8-16-55 | 9-4-55 |
| 314 C. | Factoring High Order Polynomials | M. Jacobs, DCL W.V. Howard, Aeroelastic | 8-16-55 | 4-1-56 |
| 315 C. | Torpedo Hit Distribution | M.D. McIlroy, DCL | 8-15-55 | |
| 316 L. | Radar Conversion and Correlation | M. Weinstein, DCL | 8-30-55 | |

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| 317 C. | Extraction of Stability Derivatives from Flight Test Data | M. Springer L. Mazzola Aerophysics Lab. | 9-22-55 | |
| 318 C. | 3-Dimensional Aerodynamic Lead Pursuit Study | J. Stark Instrumentation Lab. | 9-23-55 | |
| 319 B,N. | Zero Energy Scattering Cross-section of a Spheroidal Well | *J. Uretsky, Physics | 9-27-55 | |
| 320 B,N. | Moment of Inertia of a Spheroidal Nucleus | *J. Uretsky, Physics | 9-27-55 | |
| 321 B,N. | Eigenvalue and Eigenfunctions for a Spherical Square Well | *J. Uretsky, Physics | 10-5-55 | |
| 322 B. | The Maximum Bubble Size | P. Griffith Chem. Eng. | 10-11-55 | 3-18-56 |
| 323 N. | Analysis of Cloud Chamber Photographs | D.O. Caldwell Nuclear Science Lab. | 10-17-55 | |
| 324 C. | Transient Response of Aircraft to Heating | L. Schmit Aeroelastic Lab. | 10-18-55 | Cancel |
| 325 B. | Diffusion Equation with Singularity Near the Boundary | D. Pope, DCL | 10-24-55 | 1-22-56 |
| 326 C. | Production for Transportation Problem | J. Dennis, E.E. Dept. | 10-30-55 | |
| 327 L. | Prediction Analysis | L. Peterson E. Hutcheson | DDL 10-30-55 | |
| 328 B. | Buried Elastic Wave Source | J.P. Gilbert Geo. and Geophysics | 11-2-55 | |
| 329 N. | First Approximation Solution on Ore Body | *Norman Ness Geol. & Geophysics | 11-9-55 | |
| 330 C. | Postfailure Response of Aircraft Structures Subjected to Blast Loading | R. D'Amato Aeroelastic Lab. | 11-15-55 | |
| 331 D. | Matrix Iteration | W.V. Howard Aeroelastic Lab. | 11-15-55 | 12-25-55 |
| 332 C. | Game Theory Optimization of an Interception System | G. Weltri, DAGL | 11-15-55 | 3-18-56 |

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| 333 A. | Flame Stabilization on a Heated Plate | T. Y. Toong Mech. Eng. | 11-18-55 | |
| 334 C. | Parametric Study of Coupling and Damping | K. Wetmore Aeroelastics Lab. | 11-18-55 | |
| 335 A. | Course 6.25, Fall Term 1955 | W. Eccles E.E. Department | 11-18-55 | 2-19-56 |
| 336 C. | Model Distribution Analysis | R.M. Oliver J. Hansen Op. Res. (MELPAR) | 12-13-55 | |
| 337 N. | Nonlinear 2nd Order Differential Equations in the Theory of Elastic Shells | *H. Weinitzke Math. Dept. (CMTC) | 12-19-55 | |
| 338 C. | Optimization of Ram-Air Cooling System | R. Moroney Servo Lab. | 12-19-55 | |
| 339 A. | Beam Vibration | S.H. Grandall Mech. Eng. | 12-20-55 | |
| 340 B,N. | Self Energy and Mass of the Polaron, Feynman Theory | T. Schultz H. Paul | SS&MT 1-5-56 | 3-18-56 |
| 341 C. | Statistical and Dynamic Methods in Forecasting | E. Kelley B. Shorr K. Bryan | Meteorology 1-6-56 | |
| 342 B. | Transient Heat Flow in Solids | R. Gelman Mechanical Eng. | 1-9-56 | |
| 343 C. | Weather Prediction | Prof. J. Austin Meteorology Dept. | 1-11-56 | |
| 344 B. | Dynamic Programming | R.M. Oliver Op. Research | 1-13-56 | |
| 345 B. | Matrix Multiplication | R. Archer Mechanical Eng. | 1-16-56 | |
| 346 B. | Complex Spectrum Analysis | J. Lindner Spectroscopy Lab. | 1-19-56 | |

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| 347 B. | Solving Simultaneous Equations | S.G. Fattal Civil Eng. Dept. | 1-19-56 | 1-22-56 |
| 348 A. | Wave Propagation | L. Roberts Math. Dept. | 1-23-56 | |
| 349 | Solution of Partial Differential Equations | F.M. Verzuh DCL-OSS | 1-25-56 | 2-26-56 |
| 350 D. | Computation of Variances and Covariances | D. Gilman Meteorology Dept. | 1-25-56 | |
| 351 B. | Non-Uniform Fuel Distribution | A. Sutter Nuclear Eng. | 1-27-56 | |
| 352 B. | Whirling Vibrations in Propeller Shaftings | C. Brandt J.C. Snyder C.R. Thompson Naval Architecture | 2-1-56 | 4-15-56 |
| 353 A. | Waiting Line--Constant Holding Time | H. Galliker Op. Research | 2-2-56 | |
| 354 D. | Response of a Single Story Concrete Building | B. Landry Civil Engineering | 3-15-56 | |
| 355 B. | Quantisation Error | H. Pople E.E. Dept. | 3-15-56 | |
| 356 B. | Partially Continuous Wooden Beams | M. Barkan H. Paul Civil Eng. | 3-21-56 | |
| 357 B. | Propagation of Roundoff Error | A.I. Green E.E. Dept. | 3-23-56 | |
| 358 B. | Vertical Tail Loads Due to Rolling Pull-up | H. Parechanian Aero. Eng. Dept. | 3-23-56 | |
| 359 B. | Solution of Transverse Web Frame | C. Brandt J. C. Snyder C.R. Thompson Naval Architecture | 3-29-56 | |

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| 360 (B). | Dynamic Response of Shear Walls | A. Finerman Civil Eng. | 4-3-56 |
| 361 B,W. | Growth of Fatigue Cracks | *J.B. Walsh Mech. Eng. | 4-3-56 |
| 362 B. | Fourier Synthesis for Crystal Structure | N. Niizeki Meteorology ✓ | 4-6-56 |
| 363 A. | Asymptotic Integration of Equations Concerning Torroidal Shell | S.H. Crandall. N. Dahl Mech. Eng. | 4-6-56 |
| 364 C. | Blast Response of Rotor Blades | J. Degundi & K. Foss Aero. Eng. M. Callaghan, DCL | 4-1-56 |
| 365. | Problems Concerned with Comparison and Testing of Whirlwind I and IBM 650 | J. Roseman DCL | 4-17-56 |
| 366. | (not given out yet) | | |
| 367 B. | Determination of Critical Mass | J. Barnett Nuclear Eng. | 4-17-56 |
| 368 B,N. | Condensation in a Vertical Tube | *J. Lehtinen Mech. Eng. | 4-17-56 |
| 369. | Temperature Distribution in a Beam | F.M. Verzuh DCL | 4-18-56 |
| 370 B. | | J. Fergie Lincoln Lab. | 4-18-56 |
| 371 L. | Atmospheric Propagation of Radio Waves | J.F. Roche W. Mason Lincoln Lab. | 4-24-56 |
| 372 B. | Design of Spherical Shell Segments | E. Traum S. Namyet Civil Eng. | 4-26-56 |
| 373 B. | Flux Leveling in Homogeneous Reactor - Part I. | R. Kennedy Naval Eng. | 4-27-56 |

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| 374 B. | Flux Leveling in Homogeneous Reactor - Part II. | L. Hoover Naval Eng. | 4-27-56 |
| 375 B. | Poincaré Polynomials Tested for Hurwitz Character | M. Weissenstem Elec. Eng. | 5-2-56 |
| 376 N. | Flight Simulation | M. Connelly H. Bourland Servo. Lab. | 5-14-56 |

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| 374 B. | Flux Leveling in Homogeneous Reactor-Part II | L. Hoover, M.S. Nuc. Eng. | 4-27-56 |
| 375 B. | Poincaré Polynomials Tested for Hurwitz Character | M.Weissenstern, M.S. Ele. Eng. | 5-2-56 |
| 376 N. | Flight Simulation | M.Connelly & H.Bourland Servomechanisms Lab. | 5-14-56 |
| 377 L. | Coverage Analysis | L.Peterson & E.Hutcheson Lincoln Lab. | 5-16-56 |
| 378 B. | Response of a Reinforced Concrete Roof System to Dynamic Loading | B. Landry, M.S. Civil Eng. | 6-5-56 |
| 379 C. | Oscillatory Wave Cam | W. Shapiro & J.Housley Hydraulics Lab. | 6-14-56 |
| 380 B. | Switching Circuits | C. Roth Ele. Eng. | 6-19-56 |
| 381 C. | Root Locus Plotting | J. Yarmon Instrumentation Lab. | 6-27-56 |
| 382 B. | Calculation of Prime Numbers | H.Cohen, B.S. Ele. Eng. | 7-13-56 |
| 383 C. | Stokes Particle Velocities | T.Marlow Hydrodynamics Lab. | 7-31-56 |
| 384 B. | Prompt Neutron Emission Probability | A.Herrington, Ph.D. Chem. Eng. | 8-10-56 |
| 385 B. | Feed Plate Location | I. Rinard, M.S. Chem. Eng. | 8-16-56 |
| 386 C. | Free Convection | M.Finston & J.Baron Naval Supersonic Lab. | 8-28-56 |
| 387 C. | Determination of Velocity Potential | S.Gravitz & G.Zartarvan Aero-elastic & Structure Research | 9-17-56 |

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| 388 D | Temperature Distribution in Aircraft Generators | R. Maroney Aero. Lab. 9/28/56 |
| 389 D | Supersonic Flow of Air in a Tube | J. Redbill Mech. Eng. 10/5/56 |
| 390 B | Hitchell's Wave-making Integral | W. Tudat Civil Eng. 10/9/56 |
| 391 L | Magnetic Relaxation on Thin Films | D. O. Smith Lincoln Lab 10/12/56 |
| 392 L | Energy Band Calculations for MuO | D. Watson Lincoln Lab 9/26/56 |
| 393 N | The Inverse Bremsstrahlung Spectrum | Dr. Demas P. Sargent 10/17/56 |
| 394 C | Automatic Programming for Controlled Machine Tools Numerically | Dr. Demas Dr. Demas |
| 395 L | Fay's Error Calculation | Donald Mac Clellan Lin Lab 11/2/56 |
| 396 | Subroutine Study | J. Roseman 11/27/56 D. C. L. |
| 397 L | Response Function of Air Shower Detectors | E. Clark Aero. Science Lab 11/30/56 |
| 398 A | Diagonalization of Matrices | J. Maroney Physics Dept. 12/10/56 |
| 399 L.B. | Domain Wall Motion | J. Harrington Lincoln 12/17/56 |
| 400 C | Temperature and Stress Response | J. C. Lina aeroelasticity Lab 12/26/56 |
| 401 N | Non-Stationary Quenching Problems | P. M. Morse 1/10/57 physics 2/18/57 |
| 402 N | Monte Carlo's Elementary Control Study | P. M. Morse 1/10/57 |
| 403 B | Transient Heat Transfer | A. Bygones Mech. Eng 2/18/57 |
| 404 | Core Optimization | R. Gardner B. Sel 2/21/57 Mech. Eng. |

M. Cohen 2/27/57

405 B Fuel Composition in Nuclear Reactors

Mech. Eng.
D. A. Rallke

406 Numerical Method of ^{maximizing or minimizing} n a dimension

elec. Eng.

407 Diffusion Boundary

J. Baroz
~~elec. Eng.~~
Supersound Lab

408 Frequency Spectrum of Magnesium

L. Slutsky
Chem. Dept

409 An Analytical Study of Bluff Bomb Trajectories

P. Rose Jr.

410 B L_2 Approximation for Flap Flattening

L. W. C. Campbell

411 B, W Laser Cavity Klystron

Rec. Science

412 N Energy Bands for K.

Abraham Bers
Hanna Paul (R.L.C.)

413 B Response of Multi Story Building to Displacement ^{Ground}

J. C. Allen
Solid State
R. Gray
Civil Eng.