

Subject Index

- a posteriori* probability, 25
a priori probability, 25
 angular coordinate meter, 79
- back action, 35
- capacity transducer, 139
 characteristic function, 170
 coherent state of e.m. wave, 173
 completeness of measurement, 30
 continuous measurement, 76, 93, 122
 continuous QND measurement, 56, 112
 cubic dielectric nonlinearity, 162
- decomposition of unity, 32, 33, 35
 dynamic back action, 93
 direct measurements, 39
 discrete measurements, 76
 Doppler speed meter, 11, 180
- electron probe, 41
 ensemble, 1
- Fabry-Perot interferometer, 137, 162
 fluctuation-dissipation theorem, 88, 108
 frequency upconverter, 154
 frequency-anticorrelated state, 179, 180
- gravitational-wave experiment, 106
- Hamiltonian operator, 18
 Hanbury-Brown-Twiss experiment, 172
 Heisenberg microscope, 8, 77
- indirect measurements, 38, 40, 46
 inverse Faraday effect, 161
- Klyshko-Hong-Mandel experiment, 5
- Lebedev experiment, 3
 linear detection, 118
 linear measurements, 65
- macroscopic observer, 39
 Michelson interferometer, 127, 137
- Miller force, 176
 monophotonic state, 5
- nonorthogonal measurements, 32
- optical detection, 161
 orthogonality of measurement, 31
- photons, 2
 photoelectric effect, 2
 ponderomotive meter, 53, 57
 probabilistic interpretation, 19
 probe oscillator, 109
 pumping field, 149, 151
- QND readout, 112
 quadrature amplitudes, 51
 quantum nondemolition (QND) measurement, 37, 50, 53, 55, 60, 159
 quantum/classical cut, 41
 quantum probe, 40
 quasi QND measurement, 113, 157
- reduction of quantum state, 3, 24
- Schrödinger equation, 18
 sequences of linear measurements, 70
 Shawlow-Townes formula, 139
 signal-to-noise ratio, 117, 121, 130
 slow-varying-amplitude approximation, 153
 squeezed states, 174
 SQUID, 107
 standard quantum limit, 13, 23, 52, 107, 115
 stroboscopic meter, 110, 150
- thermal fluctuations, 14
- uncertainty relation, 7, 21, 51, 55, 65, 79, 81, 108
- watchdog effect, 94, 122
 wave function, 17
 weighing of e.m. energy, 56
- Zeno paradox, 94, 101
 zero-point fluctuations, 23