Building Electro-Optical Systems: Making It all Work

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Wiley, 2009. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: Preface.Acknowledgments.1. Basic Optical Calculations.1.1 Introduction.1.2 Wave Propagation.1.3 Calculating Wave Propagation in Real Life.1.4 Detection.1.5 Coherent Detection.1.6 Interferometers.1.7 Photon Budgets and Operating Specifications.1.8 Signal Processing Strategy.2. Sources and Illuminators.2.1 Introduction.2.2 The Spectrum.2.3 Radiometry.2.4 Continuum Sources.2.5 Interlude: Coherence.2.6 More Sources.2.7 Incoherent Line Sources.2.8 Using Low-Coherence Sources: Condensers.2.9 Lasers.2.10 Gas Lasers.2.11 Solid-State Lasers.2.12 Diode Lasers.2.13 Laser Noise.2.14 Diode Laser coherence control.3. Optical Detection.3.1 Introduction.3.2 Photodetection in Semiconductors.3.3 Signal to Noise Ratios.3.4 Detector figures of merit.3.5 Quantum detectors.3.6 Quantum Detectors with Gain.3.7 Thermal Detectors.3.8 Image intensifiers.3.9 Silicon Array Sensors.3.10 How do I know which noise source dominates'.3.11 Hacks.4. Lenses, Prisms, and Mirrors.4.1 Introduction.4.2 Optical Materials.4.3 Light Transmission.4.4 Surface Quality.4.5 Windows.4.6 Pathologies of Optical Elements.4.7 Fringes.4.8 Mirrors.4.9 Glass Prisms.4.10 Prism Pathologies.4.11 Lenses.4.12 Complex Lenses.4.13 Other Lenslike Devices.5. Coatings, Filters, and Surface Finishes.5.1 Introduction.5.2 Metal Mirrors.5.3 Transmissive Optical Coatings.5.4 Simple Coating Theory.5.5 Absorptive Filters.5.6 Beam Dumps and Baffles.5.7 White Surfaces and Diffusers.6. Polarization.6.1 Introduction.6.2 Polarization of Light.6.3 Interaction of Polarization with Materials.6.4 Absorption