INTRODUCTION

So far the following subjects have been written up for vs. 1.0:

- Conventions and definitions
- Rays
- Stationary phase
- Eikonal theory
- Convolution and correlation
- Fourier transforms
- Wave equations and waves
- Plane wave spectra
- Propagation of the optical field
- Fresnel diffraction
- Fraunhofer diffraction
- The diffraction-limited focus
- Normalization and numerics
- MATHCAD experiments
- Lenses as Fourier transformers
- Amplitude and phase masks

The following additional subjects are being written:

- System response
- Coherent and incoherent imaging
- Holography
- Gratings
- Nonlinear propagation
- Diffraction-free beams
- Quantum mechanics of focusing
- Aberration
- Generalized functions

Future upgrades will add more specialized topics such as:

- Polarization
- Spectral formalisms
- Hilbert transforms
- Fourier series
- Optical Signal Processing
- Acousto-optics

- The Quasi theorem
- Schlieren imaging
- Birefringent propagation
- Sampling
- Anisotropy

In the further future are video clip demos and interactive simulations.

The subjects presented on this web site are S11 PLANE WAVE SPECTRA and S7 PROPAGATION OF THE OPTICAL FIELD. These are cross referenced where appropriate by the underlined numbers S7 and S11. Cross references to other numbers are inoperative. Links between subjects will always be to the heading of the subject referred to; further internal links may then be found under that heading.

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