



# MS 39 Harold Osterberg

## MS 39 Harold Osterberg Papers

MS 39

Personal Papers

### ABSTRACT

The Harold Osterberg Papers contain class notes and a manuscript from his time spent teaching at American Optical Company in the 1950s. The collection also contains notes made by Alan Carlan, a letter from Audrey Carlan to the 2007 reunion chair, Mike Stephens, and photocopies of articles about the Carlans.

### BIOGRAPHICAL SKETCH

Harold Osterberg received his PhD from the University of Wisconsin, Madison in 1931. The title of his thesis was "An Interferometer method of studying the vibrations of an oscillating quartz plate." Dr. Osterberg taught at the University of Wisconsin, Madison until 1939, when he joined Spencer Lens Company in Buffalo, New York, which was then the Instrument Division of American Optical Company. In the 1950s he was head of the Mathematics Section of American Optical's Research Center in Southbridge, Massachusetts. He continued with American Optical until at least 1977. Dr. Osterberg published papers on optics and lasers, had several patents, and received the David Richardson Medal from the Optical Society of America in 1983. An article by Jeff Hecht titled "Thirty-Five Years of Lasers," which appeared in Laser Focus World in May 1995, says that Elias Snitzer, Will Hicks and Harold Osterberg made the first single-mode optical fibers.

Audrey Carlan, who took courses with Dr. Osterberg at American Optical Company in the 1950s, said in an article in WPI West magazine that Harold Osterberg inspired her to excel: "Turn light on and off at the frequency of life,' he told me, and that ambition of his instantly became mine. I was thrilled by those words."

### SCOPE AND CONTENT

Almost the entire collection is comprised of class notes and a manuscript of Harold Osterberg, for courses Dr. Osterberg taught at American Optical Company in the 1950s. There are also a few pages of notes made by Alan Carlan. At the end of the collection are a copy of a letter from Audrey Carlan to the 2007 reunion chair, Mike Stephens, and photocopies of articles about the Carlans.

### Container List

Container	Folder	Date	Title
None			

## Container List

Container	Folder	Date	Title
Box 01	Folder 01	1950s	Manuscript: Snell's Law for Absorbing Media by Harold Osterberg <i>Used in course at American Optical [includes note from Audrey Carlan and some notes of Alan Carlan]</i>
Box 01	Folder 02	1950s	Notes by Dr. Harold Osterberg written for Electromagnetic Course, plus Audrey Carlan's Note
Box 01	Folder 03	Winter 1954	Lectures on Advanced Physical Optics Given by Dr. Osterberg: Table of Contents, Chapters I-XIX
Box 01	Folder 04	Winter 1954	Lectures on Advanced Physical Optics: Chapters I & II <i>"Electromagnetic Theory as applied to Thin Films"</i> <i>"Interpretation of Transmittance and Reflectance Measurements"</i>
Box 01	Folder 05	Winter 1954	Lectures on Advanced Physical Optics: Chapters III-V <i>"Fabry-Perot Interferometer in Transmission"</i> <i>"Fabry-Perot Interferometer in Reflection"</i> <i>"Channel Spectra, by D. A. LaMarre"</i>
Box 01	Folder 06	Winter 1954	Lectures on Advanced Physical Optics: Chapters VI, VII, VIII <i>"Integral Form of Huygen's Principle: Some uses in Physical Optics"</i> <i>"Diffraction Gratings: Their Fraunhofer Phenomena, from Integral Form of Huygen's Principle"</i> <i>"Stellar &amp; Vibration Interferometers"</i>
Box 01	Folder 07	Winter 1954	Lectures on Advanced Physical Optics: Chapters IX, X, XI <i>"Electric and Magnetic Dipoles as Radiators" (Ch. IX)</i> <i>"Vector Analysis: Definitions and Theorems" (Ch. X)</i> <i>"Luneburg's Diffraction Integral" (Ch. X)</i> <i>"Luneburg-Debye Diffraction Integral" (Ch. XI)</i>
Box 01	Folder 08	Winter 1954	Lectures on Advanced Physical Optics: Chapters XII, XIII, XIV, XV <i>"The Luneburg-Debye Diffraction Integral with Polarized Light"</i> <i>"Diffraction Image of Extended, Self-Luminous Objects"</i> <i>"Diffraction Theory of Image Formation with Objects Illuminated by Sets of Plane Waves"</i> <i>"Phase Microscopy"</i>
Box 01	Folder 09	Winter 1954	Lectures on Advanced Physical Optics: Chapters XVI, XVII, XVIII, XIX <i>"A Phenomenological Energy Theory of Image Formation"</i> <i>"Miscellaneous Diffraction Problems"</i> <i>"On the Measurement of Polarization"</i> <i>"The Birefringent Filter"</i>

---

---

**Series II: Papers by Harold Osterberg**

MS 39\_02

Personal Papers

**Container List**

<b>Container</b>	<b>Folder</b>	<b>Date</b>	<b>Title</b>
Box 01	Folder 10	July 1949	Paper by Dr. Osterberg and Franklyn C. Wissler <i>"The Resolution of Two Particles in a Bright Field by Coated Microscope Objectives," reprinted from Journal of Optical Society of America</i>
Box 01	Folder 11	May 1950	Paper by Dr. Osterberg <i>"Microscope Imagery and Interpretations," reprinted from Journal of the Optical Society of America</i>

---

---

**Series III: Biographical Information about Carlans**

MS 39\_03

Personal Papers

**Container List**

<b>Container</b>	<b>Folder</b>	<b>Date</b>	<b>Title</b>
Box 01	Folder 12	1957-2007	Information from Audrey Carlan about her and her husband Alan, both WPI M.S. graduates in Physics