2019

Albert Abraham Michelson, "Velocity of Light".

University Archives and Special Collections, Prescott Memorial Library, Louisiana Tech University

FINDING AID TO
ALBERT ABRAHAM MICHELSON "VELOCITY OF LIGHT" COLLECTION,

(1878) 1963

Prescott Memorial Library
Special Collections, Manuscripts, and Archives
W. Railroad Avenue
Ruston, Louisiana 71272

http://www.latech.edu/library/scma/

Processed by: Archives
Finding Created by: Tanya Arant, March 12, 2019

Descriptive Summary

Creator Information	Department of University Archives and Special Collections
Title	Albert Abraham Michelson, "Velocity of Light"
Collection Identifier	M-092
Date Span	1878
Abstract	Facsimile of Michelson's handwritten paper "Experimental Determination of the Velocity of Light" in 1878 to determine the velocity of light.
Extent	1 folder
Finding Aid Author	Tanya Arant, 2019
Languages	English
Repository	Department of University Archives and Special Collections, Prescott Memorial Library, Louisiana Tech University

Administrative Information

Location Information: 4th floor SCMA

Access Restrictions: Collection is open for research

Acquisition Information:

Accession Number: M-092

Preferred Citation: Albert Abraham Michelson, "Velocity of Light", M-092, folder 1/box 1, University Archives and Special Collections, Prescott Memorial Library, Louisiana Tech University, Ruston, Louisiana

Biography or History Note

Michelson was born in Strzelno, Province of Posen in Germany (now Poland), the son of Samuel Michelson and his wife, Rozalia Przyłubska, both of Jewish descent. He moved to the US with his parents in 1855, at the age of two. He grew up in the mining towns of Murphy's Camp, California and Virginia City, Nevada, where his father was a merchant. His family was Jewish by birth but non-religious, and Michelson himself was a lifelong agnostic. He spent his high school years in San Francisco in the home of his aunt, Henriette Levy (née Michelson), who was the mother of author Harriet Lane Levy.

President Ulysses S. Grant awarded Michelson a special appointment to the U.S. Naval Academy in 1869. During his four years as a midshipman at the Academy, Michelson excelled in optics, heat, climatology and drawing. After graduating in 1873 and two years at sea, he returned to the Naval Academy in 1875 to become an instructor in physics and chemistry until 1879. In 1879, he was posted to the Nautical Almanac Office, Washington (part of the United States Naval Observatory), to work with Simon Newcomb. In the following year he obtained leave of absence to continue his studies in Europe. He visited the Universities of Berlin and Heidelberg, and the Collège de France and École Polytechnique in Paris.

In 1877, he married Margaret Hemingway, daughter of a wealthy New York stockbroker and lawyer and the niece of his commander William T. Sampson. They had two sons and a daughter.

Michelson was fascinated with the sciences, and the problem of measuring the speed of light in particular. While at Annapolis, he conducted his first experiments of the speed of light, as part of a class demonstration in 1877. His Annapolis experiment was refined, and in 1879, he measured the speed of light in air to be 299,864 ± 51 kilometres per second, and estimated the speed of light in vacuum as 299,940 km/s, or 186,380 mi/s. After two years of studies in Europe, he resigned from the Navy in 1881. In 1883 he accepted a position as professor of physics at the Case School of Applied Science in Cleveland, Ohio and concentrated on developing an improved

interferometer. In 1887 he and Edward Morley carried out the famous Michelson–Morley experiment which failed to detect evidence of the existence of the luminiferous ether. He later moved on to use astronomical interferometers in the measurement of stellar diameters and in measuring the separations of binary stars.

In 1889 Michelson became a professor at Clark University at Worcester, Massachusetts and in 1892 was appointed professor and the first head of the department of physics at the newly organized University of Chicago.

In 1898, he noted the Gibbs phenomenon in Fourier analysis on a mechanical computer that was constructed by him.

In 1907, Michelson had the honor of being the first American to receive a Nobel Prize in Physics "for his optical precision instruments and the spectroscopic and metrological investigations carried out with their aid". He also won the Copley Medal in 1907, the Henry Draper Medal in 1916 and the Gold Medal of the Royal Astronomical Society in 1923. A crater on the Moon is named after him.

Michelson died in Pasadena, California at the age of 78. The University of Chicago Residence Halls remembered Michelson and his achievements by dedicating 'Michelson House' in his honor. Case Western Reserve has dedicated a Michelson House to him, and Michelson Hall (an academic building of science classrooms, laboratories and offices) at the United States Naval Academy also bears his name. Clark University named a theatre after him. Michelson Laboratory at Naval Air Weapons Station China Lake in Ridgecrest, California is named for him. There is a display in the publicly accessible area of the Lab which includes facsimiles of Michelson's Nobel Prize medal, the prize document, and examples of his diffraction gratings.

Numerous awards, lectures, and honors have been created in Albert A. Michelson's name. Some of the current awards and lectures named for Michelson include the following: the Bomem-Michelson Award and Lecture annually presented until 2017 by the Coblentz Society; the Michelson-Morley Award and Lecture, along with the Michelson Lecture Series, and the Michelson Postdoctoral Prize Lectureship, all of which are given annually by Case Western Reserve University; the A.A. Michelson Award presented every year by the Computer Measurement Group; the Albert A. Michelson Award given by the Navy League of the United States; and the Michelson Memorial Lecture Series presented annually by the Division of Mathematics and Science at the U.S. Naval Academy.

Sources:

"Albert Abraham Michelson 1852–1931". American Institute of Physics.

Naukowe, Łódzkie (2003). Bulletin de la Société des sciences et des lettres de Łódź: Série, Recherches sur les déformations, Volumes 39–42. Société des sciences et des lettres de Łódź. p. 162.

John D. Barrow (2002). The Book of Nothing: Vacuums, Voids, and the Latest Ideas About the Origins of the Universe. Random House Digital, Inc. p. 136. ISBN 978-0-375-72609-5.

1984; Dorothy Michelson Livingston; One Pass Productions; Cinema Guild. The Master of Light: A Biography of Albert A. Michelson. University of Chicago Press. p. 106.

Levy, 920 O'Farrell Street, 47.

Nimitz Library's Virtual Exhibits – LibExhibits

"Nineteenth century astronomy at the U.S. Naval Academy". Bibcode: 2002JAHH....5...165S.

"USNO - Our Command History". U.S. Naval Observatory.

Shankland, Paul D.; Orchiston, Wayne (2002). "Nineteenth century astronomy at the U.S. Naval Academy" (PDF). Journal of Astronomical History and Heritage. 5 (2): 165–179. Bibcode: 2002JAHH....5...165S.

James, I. (2009). Driven to Innovate: A Century of Jewish Mathematicians and Physicists p. 101. ISBN 978-1-906165-22-2.

"Michelson, Albert Abraham". American National Biography. New York: Oxford University Press. 1999.

"Raman-scattering.eu". [Not in citation given]

"Optics at the U.S. Naval Academy". Optical Society of America.

"Michelson's 1879 determinations of the speed of light". Department of Statistics and Actuarial Science, University of Waterloo (Canada).

Wolfram, Stephen (2002). A New Kind of Science. Wolfram Media, Inc. p. 899. ISBN 1-57955-008-8.
"Visual and Performing Arts - Little Center". Clark University. Archived from the original on April 20, 2018. Retrieved December 25, 2018.

"Michelson Remembered". Nimitz Library, US Naval Academy.

"The ABB Sponsored Bomem-Michelson Award". Coblentz Society. 2017.

"Michelson Lectures". Case Western Reserve University. 2017.

"Michelson Postdoctoral Prize Lectureship". Case Western Reserve University. 2017.

"Awards & Scholarships: AA Michelson Award Winners". Computer Measurement Group. 2017. Archived from the original on October 22, 2017. Retrieved October 22, 2017.

"Albert A. Michelson Award". Navy League of the United States. 2016. Archived from the original on October 19, 2018. Retrieved December 25, 2018.

"Michelson Memorial Lecture Series". U.S. Naval Academy. 2017.

Collection Description

Scope

Albert Abraham Michelson, "Velocity of Light" (1878) Facsimile of Michelson's experiments in 1878 to determine the velocity of light. Printed by Lund Press, Minneapolis, MN. Commissioned by Honeywell Industries in 1963(?). .This collection would be highly valuable to anyone studying Physics, as the speed of light is central in many disciplines of the field.

Processing Information

Whenever possible, original order of the materials has been retained. The manuscript facsimile and accompanying brochure from the printer has been housed in an acid-free folder in a buffered document storage box.

DETAILED DESCRIPTION OF THE COLLECTION

Box No. 1.

Series	**None**
Folder	
1.	Facsimile of manuscript, brochure (1878)1963