

ARCHIVES COLLECTION #12

LINCOLN LABORATORY GROUP 63

SEMINAR ON MAGNETISM

Group 63 Seminar on Magnetism  
Massachusetts Institute of Technology  
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A series of seminars on magnetism were given by Arthur L. Loeb during the academic year 1952-1953. The seminar was divided into three categories:

- A. Classical Magnetism and Qualitative Discussion of the Solid State (Series I through XVIII)
- B. Principles of Quantum Mechanics; Qualitative Explanation of Fermi and Exchange Energies (Series XIX through XXXV)
- C. Review of Some Recent Fundamental Research in Magnetism (Series XXXV through LV)

A breakdown of the topics discussed during the seminar may be found in M-2260.

This collection is filed numerically by series, with an Appendix containing material pertinent to the Seminar.

Collection Dates: 1952 - 1953 (Academic year)

AC #12 contains 63 reports  
The reports in this collection are Unclassified.

December 1964

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SUBJECT	IDENTIFICATION	DATE	TITLE	AUTHOR	CLS.	COPY NO.
	M-2260	23 Jun 53	Group 63 Seminar on Magnetism: Introduction	A. L. Loeb	U	
	M-1673	8 Oct 52	Group 63 Seminar on Magnetism, I (Electromagnetic waves and Maxwell's Equations)	A. L. Loeb N. Menyuk	U	
	M-1675	9 Oct 52	Group 63 Seminar on Magnetism, II (Electromagnetic waves and Maxwell's Equations)	A. L. Loeb N. Menyuk	U	
	M-1679	17 Oct 52	Group 63 Seminar on Magnetism, III (Electromagnetic waves and Maxwell's equations)	A. L. Loeb N. Menyuk	U	
	M-1687	27 Oct 52	Group 63 Seminar on Magnetism, IV (Paramagnetism)	A. L. Loeb N. Menyuk	U	
	M-1688	28 Oct 52	Group 63 Seminar on Magnetism, V (Paramagnetism)	A. L. Loeb N. Menyuk	U	
	M-1689	27 Oct 52	Group 63 Seminar on Magnetism, VI (Molecular field)	A. L. Loeb N. Menyuk	U	
	M-1700	27 Oct 52	Group 63 Seminar on Magnetism, VII (Ferromagnetic properties)	A. L. Loeb N. Menyuk	U	
	M-1708	3 Nov 52	Group 63 Seminar on Magnetism, VIII (Ferromagnetic properties)	A. L. Loeb N. Menyuk	U	
	M-1714	10 Nov 52	Group 63 Seminar on Magnetism, IX (Ferromagnetic properties)	A. L. Loeb N. Menyuk	U	
	M-1724	19 Nov 52	Group 63 Seminar on Magnetism, X (Harmonic oscillator, including damping force)	A. L. Loeb N. Menyuk	U	

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SUBJECT	IDENTIFICATION	DATE	TITLE	AUTHOR	CLS.	COPY NO.
	M-1720	13 Nov 52	Group 63 Seminar on Magnetism, XI (Resonance)	A. L. Loeb N. Menyuk	U	
	M-1721	14 Nov 52	Group 63 Seminar on Magnetism, XII (Coupled harmonic oscillators; normal modes of motion and perturbation methods)	A. L. Loeb N. Menyuk	U	
	M-1723	17 Nov 52	Group 63 Seminar on Magnetism, XIII (Coupled harmonic oscillators; normal modes of motion and perturbation methods)	A. L. Loeb N. Menyuk	U	
	M-1747	9 Dec 52	Group 63 Seminar on Magnetism, XIV (Coupled harmonic oscillators; normal modes of motion and perturbation methods)	A. L. Loeb N. Menyuk	U	
	M-1749	9 Dec 52	Group 63 Seminar on Magnetism, XV (Structure of metals)	A. L. Loeb N. Menyuk	U	
	M-1751	9 Dec 52	Group 63 Seminar on Magnetism, XVI (Structure of metals)	A. L. Loeb	U	
	M-1754	11 Dec 52	Group 63 Seminar on Magnetism, XVII (Structure of metals)	A. L. Loeb N. Menyuk	U	
	M-1772	24 Dec 52	Group 63 Seminar on Magnetism, XVIII (Pauli exclusion principle and statistical methods; Fermi and exchange energies)	A. L. Loeb N. Menyuk	U	
	M-1760	17 Dec 52	Group 63 Seminar on Magnetism, XIX (Wave nature of particles; the uncertainty principle in classical optics)	A. L. Loeb N. Menyuk	U	

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SUBJECT	IDENTIFICATION	DATE	TITLE	AUTHOR	CLS.	COPY NO.
	M-1763	18 Dec 52	Group 63 Seminar on Magnetism, XX (Schroedinger's Hypotheses: Stationary states, eigenfunction; and Orthonormality)	A. L. Loeb N. Menyuk	U	
	M-1764	18 Dec 52	Group 63 Seminar on Magnetism, XXI (Stationary states, eigenfunction; and Orthonormality)	A. L. Loeb N. Menyuk	U	
	M-1788	8 Jan 53	Group 63 Seminar on Magnetism, XXII (Applications)	A. L. Loeb N. Menyuk	U	
	M-1795	16 Jan 53	Group 63 Seminar on Magnetism, XXIII (Applications)	N. Menyuk A. L. Loeb	U	
	M-1798	19 Jan 53	Group 63 Seminar on Magnetism, XXIV (Perturbation Theory)	A. L. Loeb N. Menyuk	U	
	M-1809	26 Jan 53	Group 63 Seminar on Magnetism, XXV (Perturbation Theory)	A. L. Loeb N. Menyuk	U	
	M-1821	4 Feb 53	Group 63 Seminar on Magnetism, XXVI (Degenerate States)	A. L. Loeb N. Menyuk	U	
	M-1822	4 Feb 53	Group 63 Seminar on Magnetism, XXVII (Radiation)	A. L. Loeb N. Menyuk	U	
	M-1824	5 Feb 53	Group 63 Seminar on Magnetism, XXVIII (Many-electron systems; electron spin; Pauli exclusion principle)	A. L. Loeb N. Menyuk	U	
	M-1831	6 Feb 53	Group 63 Seminar on Magnetism, XXIX (Many-electron systems; electron spin; Pauli exclusion principle)	A. L. Loeb N. Menyuk	U	

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SUBJECT	IDENTIFICATION	DATE	TITLE	AUTHOR	CLS.	COPY NO.
	M-1836	10 Feb 53	Group Seminar on Magnetism, XXX (Many-electron systems; electron spin; Pauli exclusion principle)	A. L. Loeb N. Menyuk	U	
	M-1841	11 Feb 53	Group 63 Seminar on Magnetism, XXXI (Many-electron systems; electron spin; Pauli exclusion principle)	A. L. Loeb N. Menyuk	U	
	M-1850	16 Feb 53	Group 63 Seminar on Magnetism, XXXII (Many-electron systems; electron spin; Pauli exclusion principle; and Statistical Mechanics, collective model of magnetism)	A. L. Loeb N. Menyuk	U	
	M-1853	19 Feb 53	Group 63 Seminar on Magnetism, XXXIII (Statistical Mechanics; collective model of magnetism)	A. L. Loeb N. Menyuk	U	
	M-1854	17 Feb 53	Group 63 Seminar on Magnetism, XXXIV (Statistical Mechanics; collective model of magnetism)	A. L. Loeb N. Menyuk	U	
	M-1902	12 Mar 53	Group 63 Seminar on Magnetism, XXXV (Statistical Mechanics; collective model of magnetism and the Zener atomistic model)	A. L. Loeb N. Menyuk	U	
	M-1908	12 Mar 53	Group 63 Seminar on Magnetism, XXXVI (The Zener Atomistic model)	A. L. Loeb N. Menyuk	U	

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SUBJECT	IDENTIFICATION	DATE	TITLE	AUTHOR	CLS.	COPY NO.
	M-1910	13 Mar 53	Group 63 Seminar on Magnetism, XXXVII (The Zener atomistic model)	A. L. Loeb N. Menyuk	U	
	M-1914	16 Mar 53	Group 63 Seminar on Magnetism, XXXVIII (The Zener atomistic model)	A. L. Loeb J. B. Goodenough N. Menyuk	U	
	M-1917	17 Mar 53	Group 63 Seminar on Magnetism, XXXIX (The Zener atomistic model)	A. L. Loeb N. Menyuk	U	
	M-1918	18 Mar 53	Group 63 Seminar on Magnetism, XL (The Zener atomistic model)	A. L. Loeb N. Menyuk	U	
	M-1931	24 Mar 53	Group 63 Seminar on Magnetism, XLI (The Zener atomistic model)	A. L. Loeb N. Menyuk	U	
	M-1926	23 Mar 53	Group 63 Seminar on Magnetism, XLII (The Zener atomistic model; and the collective model; Hartree's self-consistant field method)	A. L. Loeb N. Menyuk P. K. Baltzer J. B. Goodenough	U	
	M-1933	25 Mar 53	Group 63 Seminar on Magnetism, XLIII (The Zener atomistic model; and the collective model; Hartree's self-consistant field method)	A. L. Loeb J. B. Goodenough N. Menyuk	U	
	M-1934	26 Mar 53	Group 63 Seminar on Magnetism, XLIV (The Collective model; Hartree's self-consistant field method)	A. L. Loeb D. A. Buck	U	
	M-1950	31 Mar 53	Group 63 Seminar on Magnetism, XLV (Matrix mechanics; spin operators)	A. L. Loeb N. Menyuk	U	



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SUBJECT	IDENTIFICATION	DATE	TITLE	AUTHOR	CLS.	COPY NO.
	M-1951	2 Apr 53	Group 63 Seminar on Magnetism, XLVI, 26 March 1953 (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb J. B. Goodenough	U	
	M-1960	7 Apr 53	Group 63 Seminar on Magnetism, XLVII (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb N. Menyuk	U	
	M-1959	7 Apr 53	Group 63 Seminar on Magnetism, XLVIII (Aniferromagnetism and Ferrimagnetism)	N. Menyuk	U	
	M-1980	13 Apr 53	Group 63 Seminar on Magnetism, XLIX (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb N. Menyuk	U	
	M-2116	28 Apr 53	Group 63 Seminar on Magnetism, L (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb N. Menyuk	U	
	M-2138	6 May 53	Group 63 Seminar on Magnetism, LI (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb N. Menyuk	U	
	M-2207	29 May 53	Group 63 Seminar on Magnetism, LII (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb N. Menyuk	U	
	M-2245	2 Jun 53	Group 63 Seminar on Magnetism, LIII (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb N. Menyuk	U	
	M-2234	11 Jun 53	Group 63 Seminar on Magnetism, LIV (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb J. B. Goodenough P. Baltzer	U	

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SUBJECT	IDENTIFICATION	DATE	TITLE	AUTHOR	CLS.	COPY NO.
	M-2261	24 Jun 53	Group 63 Seminar on Magnetism, LV (Aniferromagnetism and Ferrimagnetism)	A. L. Loeb N. Menyuk	U	

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SUBJECT	IDENTIFICATION	DATE	TITLE	AUTHOR	CLS.	COPY NO.
	M-1718	12 Nov 52	Group 63 Seminar on Magnetism, Appendix I (Maxwell's Equations)	A. L. Loeb	U	
	M-1697	28 Oct 52	Group 63 Seminar on Magnetism, Appendix II (Spin angular momentum, orbital angular momentum, total angular momentum, and the magnetic field component of angular momentum of an electron)	A. L. Loeb N. Menyuk	U	
	M-1752	11 Dec 52	Group 63 Seminar on Magnetism, Appendix III (Wave motion of a particle)	A. L. Loeb	U	
	M-1801	14 Jan 53	Group 63 Seminar on Magnetism, Appendix IV A Theory of Contacts Potential Measurements	A. L. Loeb	U	
	M-1802	21 Jan 53	Group 63 Seminar on Magnetism, Appendix V, Analog Between A Set of Eigenfunction and coordinate Systems	A. L. Loeb N. Menyuk	U	
	M-1971	9 Apr 53	Group 63 Seminar on Magnetism, Appendix VI, Duration of the Law of Paramagnetism in Ferrites Assuming Negative Interaction Between Sublattices	A. L. Loeb N. Menyuk	U	
	M-2159	8 May 53	Group 63 Seminar on Magnetism, Appendix VII, Calculation of Spontaneous Magnetization in the Region of the Curie Temperature	A. L. Loeb	U	