

INDEX - MICROFILM REEL 221
(Original designation Navy 5939-12)

NOTE: The final third of this Reel is difficult to read as a result of photographic deficiencies.

A - Papers of the D.L.V. German Aviation Research Society.

1. Combustion in motors - E. Schmidt.
2. Processing of Kogasin to high octane aviation fuel - F. Fischer.
3. High pressure combustion chambers for turbines - F. Neugebauer.
4. Gas turbines as aviation propellants - E. Schmidt.
5. Rocket propulsion. H. Freiwald.
6. Symposium on nuclear physics:
 - (a) Utilization of the nuclear energy of uranium.
 - (b) Production of energy-rich neutron.
 - (c) Protection against neutrons.
 - (d) Method for measuring effect of neutrons.
 - (e) Production of luminous colors without use of radium.
 - (f) Atomic transmutation and uranium fission - Otto Hahn.
 - (g) Production of energy by nuclear fission - W. Heisenberg
 - (h) Nuclear physical research - W. Bothe
 - (i) Isotope separations - Klaus Clausius.
7. Aviation research; a collection of articles on research on aviation engines, fuels, and armaments - 1942.
8. Rocket fuels - a series of articles.
9. Physical effects at high loads and load velocities
10. Combustion problems - 12/3/42:
 - (a) Fundamentals for determining combustion characteristics Otto fuel - A. V. Philipovich.
 - (b) Measurement of knock characteristics of adiabatically compressed motor-fuel - air mixtures.
 - (c) Exhaustive examination of the course of ignition of motor fuels.
 - (d) Examination of auto-ignition of adiabatically compressed fuel - air mixtures.
 - (e) Flame propagation in tubes.
 - (f) Experiments on the slow oxidation of some olefines and ketanes and the effect of lead on hydrocarbon oxidation.
 - (g) Calculation of the dissociation equilibrium in combustion gases.

"A" (Papers of the D.L.V. German Aviation Research Society) - Cont'd.

11. New developments in lubrication characteristics and their measurement.
12. Molecular physical effects in lubrication.
13. Time stability of steel at high temperatures.
14. Mechanical properties of metals at low temperatures.
15. Gas turbines.
16. The J-t diagram, a new aid for calculating gas turbine operation.
17. The effects of combustion products of leaded gasoline on austenitic steel.
18. Development of strong motor characteristics.
19. Recent developments in auto-ignition of fuels by adiabatic compressing.
20. Auto-ignition laboratory results and their application to engines.
21. Pre-reaction in the Otto engine.
22. Reaction kinetics in the oxidation of n- and i-paraffins.
23. New methods for determining individual influences of work in engine knocking.
24. Isentropic changes in dissociating gases and the sound dispersion method for examining very rapid homogenous gas reaction.
25. Physical-chemical problems of motor combustion of gas mixtures. Auto-ignition and knocking.
26. Measurement of ignition velocity of flowing gas-air mixtures.
27. Formation of ice fog from the exhaust gases of aviation engines.
28. The German Academy of Aviation Research - membership.
29. Increasing the efficiency of aviation engines.
30. Problems in fuel research - Phillipovich.

"A" Cont'd.

31. Aviation gasoline and its production. - Pier.
32. Problems in combustion.
33. Academy transactions, miscellaneous, list of publications of members, pictures of members, addresses, etc.
35. Increasing efficiency of aviation engines.
36. Guided missiles.
37. High pressure combustion chambers for turbines.
38. Thermodynamics and operations in combustion engines.
39. Hardness and chemical linkages.
40. Combustion problems.
41. External form of aviation engines.
42. Theoretical examination on detonation.
43. Experimental work on detonation.
44. Combustion in motors.
45. Research on the Stratosphere.
46. Physical basis of the effects of detonation.
47. High duty engines.
48. Aerodynamics and plane accessories.
49. The effect of the combustion products of leaded gasoline on austenitic steel.
50. Natural and artificial snow crystals.
51. Magnetic O₂ analysis in gas mixtures.
52. Developments in optic measurements of gas flow.
53. Formation of mixtures in aviation engines. The comparison of gasification and cylinder infection.

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54. Examination of stream in gas turbines.
55. Anti tank bombs.
56. Performance and organization of Anglo-Saxon physics.
57. Development of efficiency of the Daimler-Benz aviation motor (1935-1941)
58. Heating effects in machine guns during shooting.
59. Development of gun and ammunition.

"B" - Papers from the high pressure research laboratory - Ludwigshafen.

60. Hydrogenation of petroleum paraffins for lubricating oil synthesis.
61. Pressure-less dehydrogenation of n-butane.
62. Prehydrogenation with alumina catalysts.
63. D H D experiments in the 100 liter oven.
64. Refining of coal tar at 50 atmospheres.
65. Catalytic cracking under high pressure or D H D conditions.
66. Transformer oil testing.
67. Coal hydrogenation in the Sump phase.
68. H_2S and the reduction of sulfides.
69. Consultation with Dr. Zorn.
70. Pressure hydrogenation of Roumanian crude to benzine and diesel fuel.
71. Evaluation of D H D activated alumina catalyst.
72. Gas phase T T H.
73. Fluoride catalyst.
74. Pressure hydrogenation of pyrene with catalyst #5058.

"B" - Cont'd.

75. Dephenolization of middle oil.
76. T. T. H. lubricating oil.
77. Catalyst firmness in the T.T.H. experiments.
78. Pressure hydrogenation of dry coal.
79. Fluid cracking.
80. Washing out SO_2 in DHD regeneration.
81. Hydrocarbon gases by hydrogenation and DHD.
82. Fundamentals for a pilot fluid cracking unit.
83. Hydrocarbon gases by hydrogenation.
84. Summary of paraffin refining in laboratory ovens.
85. Equilibrium in cracking paraffins with hydrogen.
86. DHD experiments with 100 liter ovens.
87. Gas solubility at 700 atmospheres (Sump phase).
88. Merseburg DHD benzin quality.
89. Dehydrogenation of n-butane.
90. Benzin refining-conference.
91. Aromatization of tar middle oil over catalyst 7019.
92. Aromatization at 600 atmospheres in the 1 liter oven.
93. Evaluation of DHD catalysts (3 reports).
94. Aviation benzin from German distillation benzin.
95. Preparation of light naphthas at different pressures.
96. Dehydrogenation of Scholven 5058/6434 heavy naphtha (P 1400). Temperature behavior.
97. Production of refined middle oil poor in hydrogen.

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98. Aromatized benzin.
99. Progress report of the high pressure labs at Lu, 9/10/40.
100. Premium fuels from petroleum naphthas.
101. Aromatics (solid) from coal oil.
102. Dehydrogenation of coal tar oil over solid catalyst.
103. Benzination chambers used as DHD chambers at Pölitz (2 reports).
104. Dehydrogenation of heavy benzin in chamber 506 (Dr. Michael).
105. Toluene from 5058/6434 benzin from coal.
106. The OXO reaction. Continuous experiments.
107. Dehydrogenation with catalyst 7360 (2 reports).
108. Prehydrogenation of brown coal middle oil at Leuna at 180 atmospheres H_2 pressure.
109. Heavy benzine dehydrogenation with catalyst 7360.
110. Aromatization at 600 atmospheres (2 reports).
111. Dehydrogenation with catalyst 7360.
112. Dehydrogenation of fractions from 5058/6434 coal naphtha.
113. Stabilization and distillation in the 100 liter dehydrogenation oven.
114. Prehydrogenation of tar middle oil with catalyst K 7424 (Al_2O_3 10% Mo).
115. 10 and 100 liter ovens for K 7360 dehydrogenation.
116. Aviation fuel from Rhenish brown coal.
117. Dehydrogenation under H_2 pressure with moving catalyst.
118. Measuring instruments for the 100 liter dehydrogenation oven with fixed catalyst.
119. Specifications for the evaluation of aviation fuels issued by the Reichsluftfahrtministerium, October 1942 - 61 pages. Physical and chemical tests.