THE ORIGIN OF RADIO ASTRONOMY

JANSKY, KARL G.

Directional Studies of Atmospherics at High Frequencies. Electrical Disturbances Apparently of Extraterrestrial Origin. A Note on the Source of Interstellar Interference. Minimum Noise Levels Obtained on Short-Wave Radio Receiving Systems. An Experimental Investigation of the Characteristics of Certain Types of Noise.

In: Proc. of the Inst. of Radio Engineers
Volume 20 No. 12
Volume 21 No. 10
Volume 23 No. 10
Volume 25 No. 12
Volume 27 No. 12

Five parts. 8vo and 4to Printed wrappers

New York 1932 - 1937

The basic papers in the discovery of an entirely original and new branch of science, radio astronomy. This discovery is strictly comparable with Galileo's use of the telescope for astronomy, as it opened up a large, previously unsuspected field of investigation, and it very greatly increased the data available to astronomers. Jansky's experiments were made at the Bell Telephone Laboratories in Holmdel, New Jersey, from 1931 to 1937. In his first paper, he describes his finding of three sources of static noise, two from thunderstorms, and one from an unknown source, apparently extraterrestrial. In the second and most important paper, he gives further information on the extra-terrestrial noise, and suggests that it may originate in the Milky Way. In his third paper, he locates the strongest source of the extra-terrestrial noise as the center of the Milky Way (the local galaxy). In his fourth paper, he discusses interstellar noise as a limiting factor in the usefulness of radio systems, along with other interference.

Jansky died in 1950, several years before there was general appreciation of the great importance of his discovery.

See Harald Friis, "Karl Jansky", in: Science, Volume 149 (1965) pp. 841-842

Purchased from H.P.Kraus January 1970 BKM/KH

Library Catalog | Course Reserves | Library Hours & News | User Self Service | Not in Cameo? Try here

University Libraries Carnegie M

Go Back | New Search | Backward | Forward | View Options | Print/Email | Request | Exit

Search Result -- Simple Search of the Library Catalog

Viewing record **1** of **1** from catalog.

☐ Check here to mark this record for Print/Email

621.384 J35S [Selected articles] / Karl G. Jansky.
Jansky, Karl G.

Personal author: **Jansky, Karl G.**

Title: **[Selected articles] / Karl G. Jansky.**

Publication info: **New York : Institute of Radio Engineers, 1932-1965.**

Physical description: **6 issues : ill. ; in box 30 x 26 cm.**

General note: **In wine cloth covered box.**

General note: **[Article 1] Directional studies of atmospherics at high frequencies, in Proceedings of the Institute of Radio Engineers, vol. 20, no. 12, Dec. 1932. p. 1920-1932. 23 x 16 cm. In gray paper wrappers as issued.**

General note: **[Article 2] Electrical disturbances apparently of extraterrestrial origin, in Proceedings of the Institute of Radio Engineers, vol. 21, no. 10, Oct. 1933. p. 1387-1398. 23 x 16 cm. In gray paper wrappers as issued.**

General note: **[Article 3] A note on the source of interstellar interference, in Proceedings of the Institute of Radio Engineers, vol. 23, no. 10, Oct. 1935. p. 1158-1163. 23 x 16 cm. In gray paper wrappers as issued.**

General note: **[Article 4] Minimum noise levels obtained on short-wave radio receiving systems, in Proceedings of the Institute of Radio Engineers, vol. 25, no. 12, Dec. 1937. p. 1517-1530. 23 x 16 cm. In gray paper wrappers as issued.**

General note: **[Article 5] An experimental investigation of the characteristics of certain types of noise, in Proceedings of the Institute of Radio Engineers, vol. 27, no. 12, Dec. 1939. p.763-768. 23 x 16 cm. In blue and tan papers as issued.**

General note: **[Article 6] Karl Jansky: his career at Bell Telephone Laboratories, H. T. Friis, in Science, vol. 149, no. 3686, 20 August 1965. p 841-842. 29 x 22 cm.**

Local note: **P347, P348**

Local note: **Condition: Many covers creased and rubbed; many spines torn.**

Held by: **HUNT**

Subject: **Radio noise.**

Subject: **Radio--Interference.**

Subject: **Interstellar communication.**

Donor: **Posner Family Collection**

sche Abhandlung von Erhaltung der Gesundheit und Verlängerung des menschlichen Lebens. Aus dem französischen übersezt. Title, 19 unn. leaves, 486 pp. Nuremberg, Wolfgang Schwarzkopf, 1766.

Two German translations from the French, consisting of Jacquin's (1721-1782) and Le Begue de Presle's (c. 1735-1807) dietetic and medical works. These useful guides with rules for healthy living describe the four human temperaments, choleric, melancholic, phlegmatic and sanguine, and refer to wholesome ways of nutrition for each type. Both contain chapters on the susceptibility to weather changes, on the significance of different foodstuffs for human health, on the effect of alcoholic and stimulating drinks like beer, wine, brandy, coffee, tea, chocolate, etc., and on tobacco. They deal with hygiene in general, bodily functions, mention the contraction of diseases by kissing, give special health rules for women, warn about the dangers of drug abuse, etc. - Slightly foxed and browned in places. - Ad I: Cf. Wellcome II, 340; Quérard, *La France littéraire* IV, 198. Not in Blake. - Ad II: Cf. Wellcome II, 465; Quérard, *La France littéraire* V, 1; Blake 259.

183. **JAHN, Friedrich Ludwig and Ernst EISELEN.** Die Deutsche Turnkunst zur Einrichtung der Turnplätze. With 2 engraved double-page folding plates. LXIV, 288 pp. 8vo. New boards with gilt-lettered spine label.
Berlin, (Reimer), 1816. [redacted]

First edition of this programmatic treatise, privately published at the expense of the authors, Jahn (1778-1852) and his assistant Eiselen (1793-1846). It is the first fundamental doctrine to consolidate the "Turnverein" movement founded by Jahn. After the first outdoor gymnasium was opened in Berlin in 1811, the gymnastic movement spread rapidly: clubs were formed, and patriotic student fraternities, of which Jahn became the leader, were organized at universities. The political background of the movement, encouraged by the Prussian minister Stein, is of a nationalistic and paramilitary nature, with the idea of strengthening resistance to Napoleonic rule. Jahn is credited with introducing the horizontal bar, vaulting horse, balance beam, parallel bars, a.o., depicted on the two plates. Owing to his efforts, sport became an essential feature of German public secondary schools. - Corner of title underlaid. - Goedeke XIV, 635, 1038; Borst 1245; Kosch VIII, 474; NDB X, 301ff.

The Discovery of Radio Astronomy

184. **JANSKY, Karl G(uthe).** Papers on Radio Astronomy. In: Institute of Radio Engineers. Proceedings. Vols. XX, 12 December 1932; XXI, 10 October 1933; XXV, 12 December 1937; XXVII, 12 December 1939. Together 4 vols. 8vo and 4to. Orig. wrappers.
Menasha, Wisc., 1932-1939. [redacted]

The discovery of radio astronomy was an event in the history of that science comparable in importance to Galileo's telescopic observations. Since Jansky's time, astronomy has expanded enormously in the field of radio observation, as well as in the observation of other forms of radiation such as X-rays. Radio observatories such as Jodrell Bank, Arecibo, and Owens Valley rival in importance the older visual observatories such as Mt. Wilson and Palomar. Jansky's (1905-1950) first paper, entitled "Directional Studies of Atmospherics at High Frequencies" reported his observations for the Bell

Hellmut Schumann Zurich #563

Telephone Laboratory at Holmdel, New Jersey. He says: "data (which) has been taken corresponds to the change in the latitude of the sun (and) affords definite indication that the source of this static is somehow associated with the position of the sun. It may be that the static comes directly from the sun". As the sun is a radio emitter, this is the first such astronomical object identified. In his later papers ("Electrical Disturbances Apparently of Extraterrestrial Origin", etc.), Jansky further investigates his discovery. Jansky's observations came to an end because of the war crisis and his early death. - Briggs, *20th Cent. World Biography* (1993), 291; Hey, *The Evolution of Radio Astronomy*, pp. 4ff.; Früs, *Karl Jansky*, in: Science, vol. 149, pp. 841ff.

185. **JEAN PAUL (i.e. Jean Paul Friedrich Richter).** Museum. XX, 379 pp. 8vo. Contemp. marbled boards with gilt spine label.
Stuttgart and Tübingen, J. G. Cotta, 1814. [redacted]

First edition. Collection of essays written by Jean Paul for the "Frankfurter Gelehrtengesellschaft", of which he was a corresponding member. He discusses philosophical and ethical problems, meteorology, magnetism, dreams, evolution, and natural science in general. One of his interests was the gestation of human life before birth, and the development of plants, animals and humans, a question to which he tried to find an answer opposing Darwin's theory. - Fine copy. - Goedeke V, 465, 31; Berend 28; Borst 1202.

186. **JNBEGRIFF** (sic) der für die eidgenössische Miliz u(nd) Landwehr nothwendigsten und vorzüglich geeignetsten militairischen Exercitien in Friedenszeiten, ... nämlich: Theoretisch-practische Anleitung zum Gebrauch des Bajonets als Stoss- und Schlagwaffe, Führung des Morgensterns und Säbels, ferners: Exercitien der leichten Jnfanterie (sic), und Scharfschützen ... zusammengetragen, geordnet und vermehrt durch einen Graubündner Offizier. 4 parts in 1 vol. With lith. title, lith. frontispiece ("Die Eidgenossen im Felde"), 7 lith. plates (some titles), and 7 lith. folding plates with 46 illus. XII pp. preface, VIII pp. subscribers' list, 110 pp.; II, 160 pp.; 104 pp.; pp. 113-226, 1 leaf errata. 8vo. Contemp. boards.
Chur, Pradella, and Zurich, Fr. Schulthess, 1837. [redacted]

Comprehensive, well-illustrated handbook for officers, written by an anonymous officer from the Grisons, published with the heading "Schweizerische Eidgenossenschaft". Some of the instructions are copied from "Schweizer Militärische Bibliothek" which is noted in the text. The final chapter on the use of the sabre is written by the fencing master S. Rhiner from Chur. The plates, some lithographed by L. Kühlenthal (1805-1866), show fighting between cavalry and infantry, an allegory of heroic courage, a camp, and all the exercises described. - Somewhat foxed, otherwise well-preserved. - Not in Barth, Holzmann/Bohatta, etc.

187. **(JOB, Johann Georg).** Anleitung zu denen Curiösen Wissenschafften ... Worinnen denen Curiösen Gemüthern aufs deut- und gründlichste gezeiget wird, wie man aus des Menschen Gesichte, Händen und Geburts-Stunden, nach der Sonnen- Mond- und Sternen-Lauf, durch Punctieren, Träume ... Ein Prognosticon u. Nativität Von seinem bevorstehenden Glück und Unglück stellen

1985

An early collection of the author's writings on the various causes of eye diseases, fistulas, and cataracts. Janin (1730-1790), a well-known eye surgeon, was the author of the first published account of hypermetropia. His performance of a successful cataract surgery on the Duke of Modena won for him an honorary professorship at the University of Modena.

British Optical Association Catalogue, p. 371
Blake, p. 234
Not in the Becker Collection

THE DISCOVERY OF RADIO ASTRONOMY

152. JANSKY, Karl G.

Papers on Radio Astronomy. In: *Institute of Radio Engineers: Proceedings*. Vols: XX, 12, (Dec. 1932); XXI, 10, (Oct. 1933); XXV, 12, (Dec. 1937); XXVII, 12, (Dec. 1939). Menasha, Wis., 1932-1939.

Four volumes. 8vo. and 4to. Wrappers as issued. [redacted]

These four volumes established an entirely new branch of science. Jansky's discoveries greatly expanded the field of radio observations and increased the data available to astronomers. In the first paper, Jansky describes his developments in recording the direction and intensity of static in radio waves, which he speculates may be associadte with the position of the sun. In the second and most important paper, Jansky further studies the electromagnetic waves of unknown origin described in the previous work and concludes that these originate from a fixed source outside the solar system. The remaining papers investigate types of noise, including that of interstellar origin.

Jansky (1906-1950) was a physicist on the technical research staff of Bell Telephone Laboratories. It was only after his early death that there was widespread appreciation of the great importance of his discoveries.

Davis, *The Advance of Science*, pp. 168-169

153. [JARS, Gabriel]

Élémens de la géométrie souterraine, théorique et pratique, d'après les leçons de M. Koenig... Paris: Cellot, Jombert, Jombert, 1780.

8vo. [2], 108 pp. With 8 large folding plates (7 illustrated and 1 table). Half-calf; a fine copy. [redacted]

First edition of an unusual treatise which, according to M. Koenig, contains materials taken grom Gabriel Jars' valuable *Voyages métallurgiques*... (Volume II). Further-