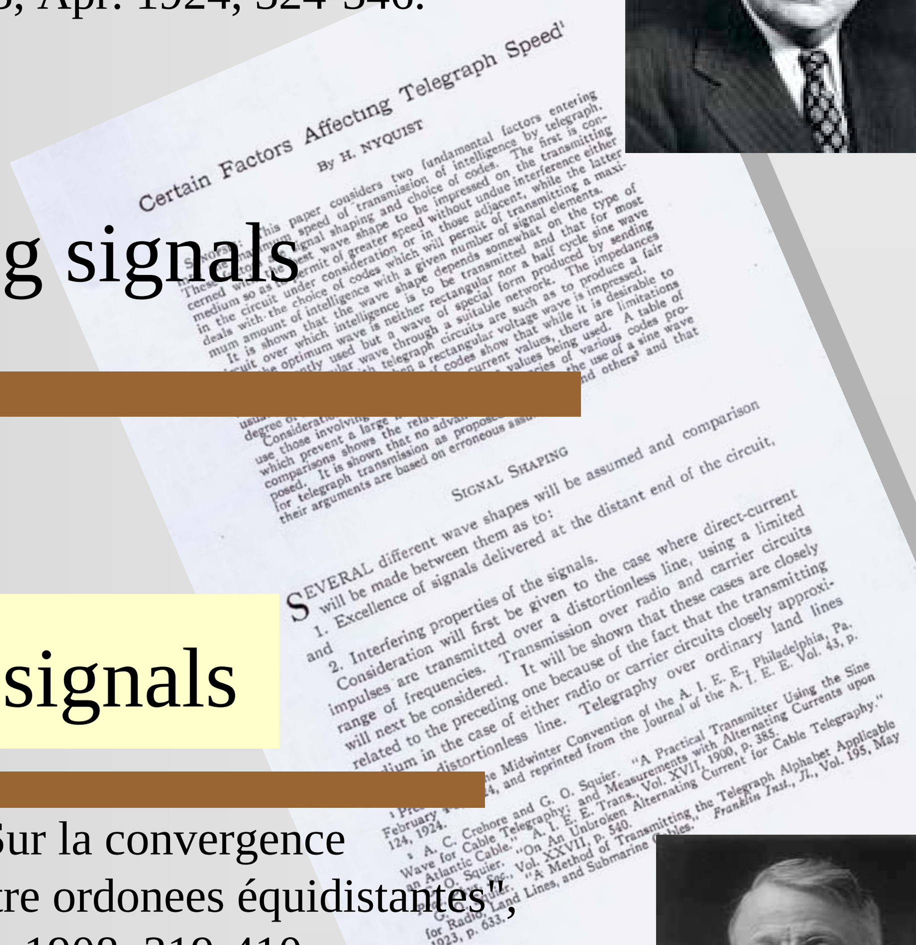
History of the Sampling Theorem

Sampling Theory

Distortionless transmission of telegraphic (digital) signals

Nyquist, H., "Certain factors affecting telegraph speed", *Bell Syst. Tech. J.*, Vol. 3, Apr. 1924, 324-346.


Certain Factors Affecting Telegraph Speed
By H. NYQUIST

Interpolation of sampling pulses of analog signals

Band-limited signals

Duration-limited signals

De la Valléee Poussin, Ch.-J., "Sur la convergence des formulaes d'interpolation entre ordonees équidistantes", *Bull. Cl. Sci. Acad. Roy. Belg.*, 4, 1908, 319-410.

1908

Whittaker, E.T., "On the functions expansions of the interpolation theory", *Proc. Roy. Soc. Edinburgh*, Vol. 35, 1915, 181-194.

1915

Theis, M., Über eine Interpolations formel von de la Vallée Poussin", *Math. Z.*, 3, 1919, 93-113.

1919

Ogura, K., "On a certain transcedental integral function in the theory of interpolation", *Tohoky Math. J.*, 17, 1920, 64-72.

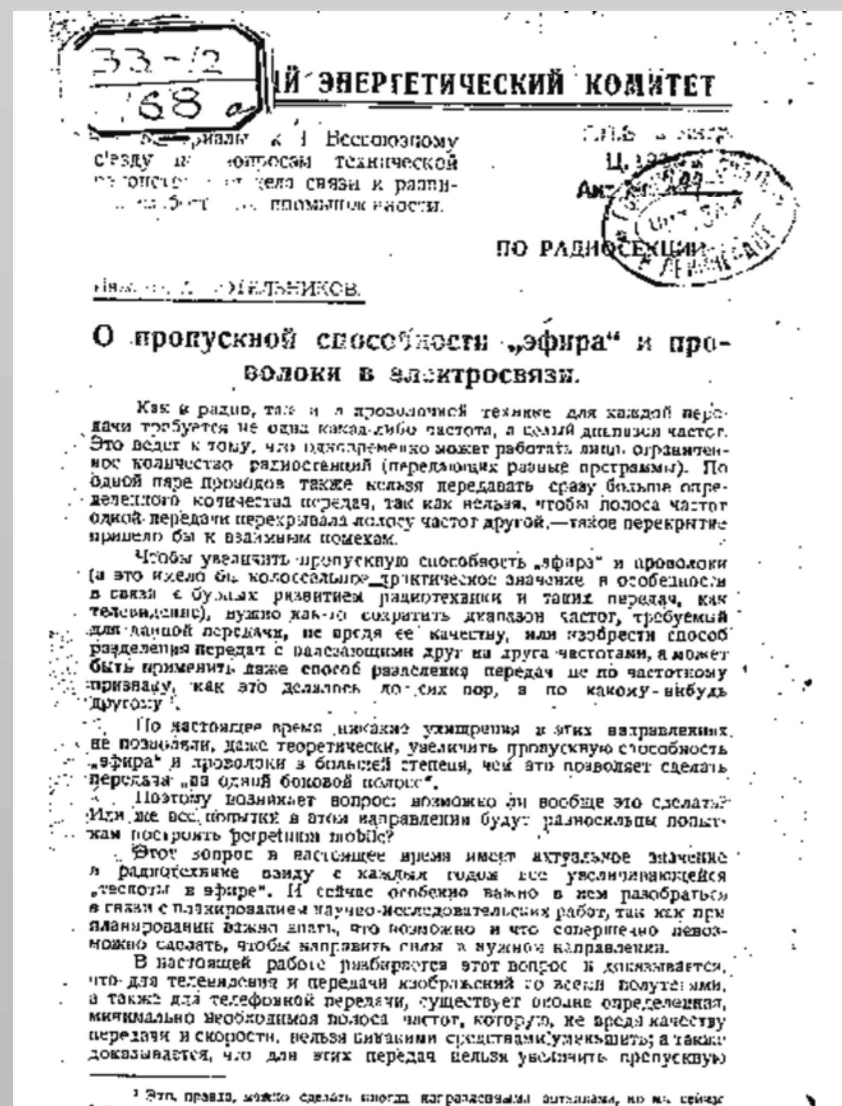
1920

Whittaker, J.M., "The "Fourier" theory of the cardinal function", *Proc. Edinburgh Math. Soc.*, 2, 1927-1929, 169-176.

1927

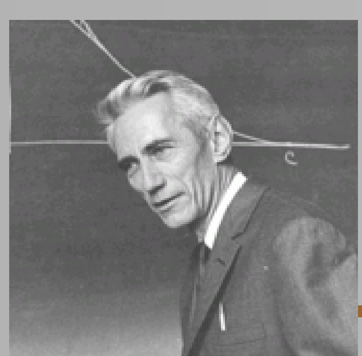
Kotelnikov, V.A., "On the carrying capacity of the "ether" and wire in telecommunications", *Material for the First All-Union Conference on Questions of Communications*, Izd. Red.Upr. Svyazi RKKA, Moscow, 1933.

1933


ЭНЕРГЕТИЧЕСКИЙ КОМИТЕТ
О пропускной способности „эфира" и проволоки в электросвязи.

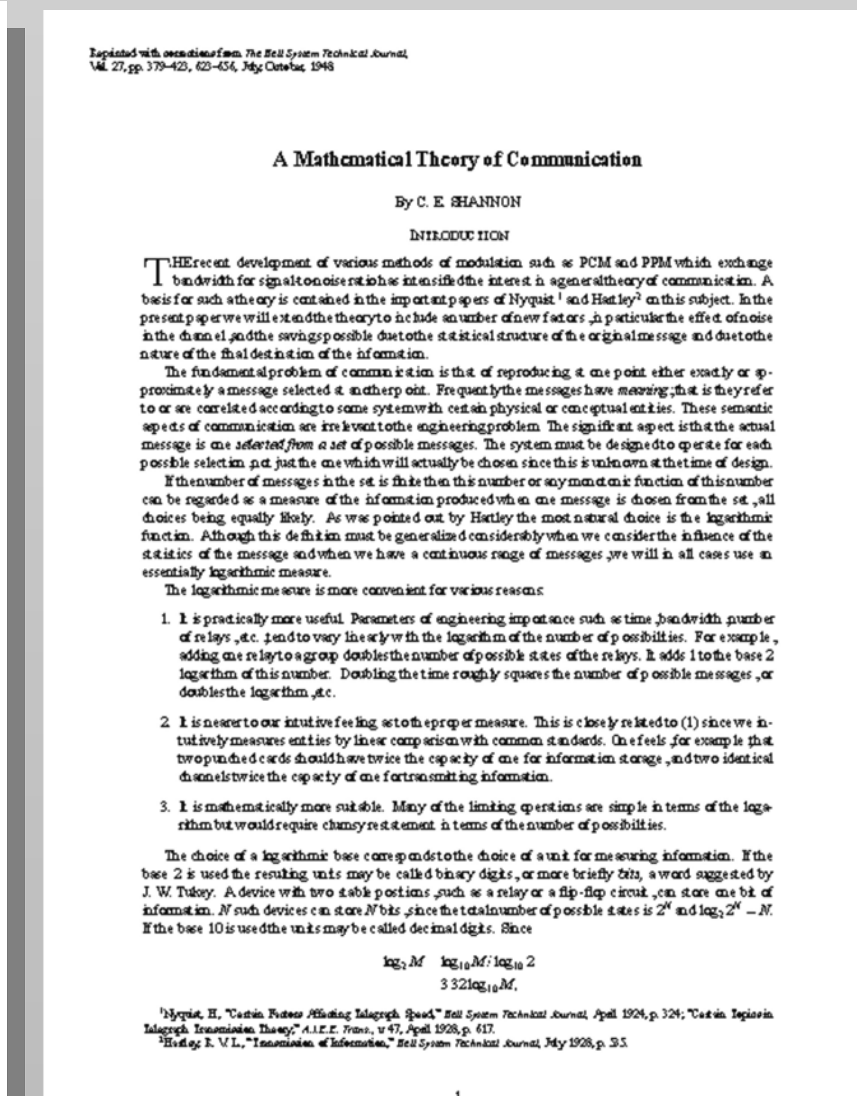
Raabe, H., "Untersuchungen an der wechselzeitigen Mehrfachübertragung (Multiplexübertragung)", *Elektrische Nachrichtentechnik*, Vol. 16, 1939, 213-228.

1939



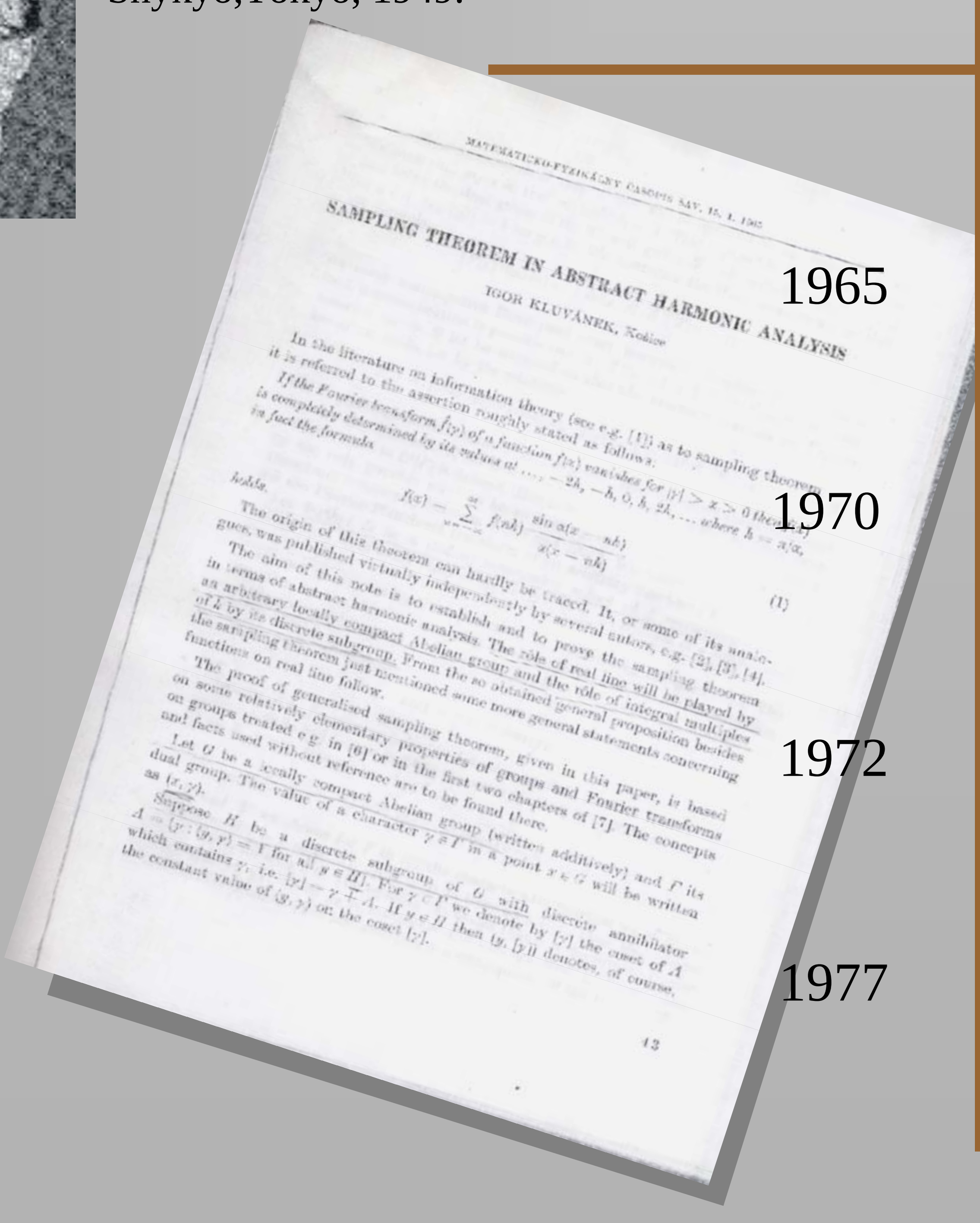
Shannon, C.E., "A mathematical theory of communication", *Bell System Tech. J.*, Vol. 27, 1948, 379-423.

1948


A Mathematical Theory of Communication
By C. E. SHANNON

Someya, I., *Hakei Denso* (*Waveform Transmission*), Shykyo,Tokyo, 1949.

1949


SAMPLING THEOREM IN ABSTRACT HARMONIC ANALYSIS
IGOR KLUVÁNEK

1965

I. Kluvanek

Kluvánek, I., "Sampling theorem in abstract harmonic analysis", *Mat. Fiz. Časopis Sloven. Akad.*, Vied. 15, 1965, 43-48.

1970

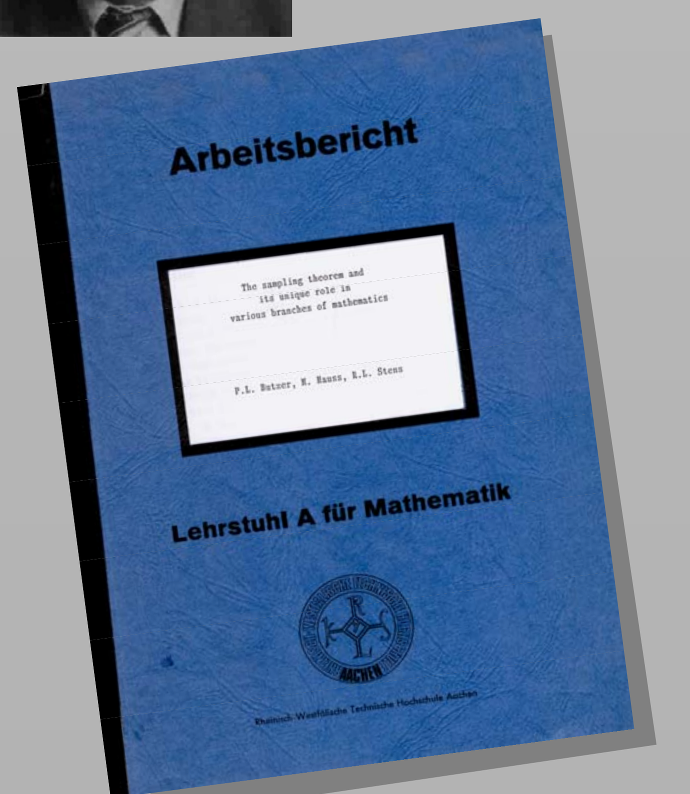
F. Pichler

Pichler, F.R., "Sampling theorem with respect to Walsh-Fourier analaysis", Appendix B in Reports *Walsh Functions and Linear System Theory*, Elec. Eng., Dept., Univ. of Maryland, College Park, May 1970.

1972

C.T. Le Dinh, P. Le, R. Goulet

Le Dinh, C. T., Le, P., Goulet, R., "Sampling expansions in discrete and finite Walsh-Fourier analysis", *Proc. 1972 Symp. Applic. Walsh Functions*, Washington, D.C., USA, 265-271.


Arbeitsbericht
Lehrstuhl A für Mathematik

1977

P.L. Butzer, W. Splettstosser

Butzer, P.L., Splettstosser, W., "Sampling principle for Duration limited signals and dyadic Walsh analysis", *Information Science*, Vol. 14, 1978, 93-106.

Radomir S. Stanković, Jaakko Astola, September 2006