

Introduction

A brief history of functional analysis:

1900 Ivar Fredholm Paper on integral equations

Given kernel $K(x, y)$, find F for:

$$\int_a^b K(x, y)F(y)dy = g(x) \text{ or}$$

$$F(x) - \int_a^b K(x, y)F(y)dy = g(x)$$

1902 Henri Lebesgue Thesis on measure theory and integration

1906 David Hilbert Paper on spectral theory

1906 Maurice René Fréchet Thesis on metric spaces

1910-1 Marcel Riesz Paper on $C[a, b]$ and $L^p[a, b]$

1922 Stefan Banach Thesis on normed spaces

1928 Fréchet Book on abstract spaces

1932 Banach Book on linear operators

