1135-VB-279 **Shigeru Masuda*** (hj9s-msd@asahi-net.or.jp), Heights Esperanza, Room # 305, 100-24 Nishida-Cho, Jodoji, Sakyo-Ku, Kyoto, Kyoto-Fu 606-8417. *The Integral methods of the equations of the partial differential in the mathematical physics by Poisson.*

We discuss integrals of the equations of the partial differential in the mathematical physics, in which Poisson proposes the methods to solve the problems in integration of equation of partial differential. Poisson proposes his academic paradigm of mathematical physics, in which he discusses the essential theories in "A Study of Mathematical Physics."

We show the following two digressions in the above last two books

•integration of equation of partial differential in the digression of problems of mechanics

•that in the digression of problems of heat.

He postulates at first the linear equation L=0, and the general solution expressed by the series,

$$u = P\theta^{\alpha} + Q\theta^{\beta} + R\theta^{\gamma} + \text{etc. ;}$$

the coefficients P, Q, R, etc., will be the functions of t, and the exponents α, β, γ, etc., u is expressed various types in accordance with the problems, for example, the equation very simple, linear and at partial differentials of the second order,

$$\frac{du}{dt} = a^2 \frac{d^2u}{dx^2}. \tag{1}$$

He will determine these unknowns in each case. (Received August 25, 2017)