

Ima made mite kâta Kanziw wo ieba, " Discussion " ga tarinai to iu yori okonawarete inai to itta Hô ga yoi kurai da. Dô mo hagayui Omoi ga suru ga Sikata ga nai mono ka sira ? Homeru no wa wake nai ga, O-taiko wo tataite iru yô de Ki ga susumanai. Dukeduke sisugiru kamo sirenai ga omoituita mama wo kakitadutte ikitai.

Boku wa Hatake-tigai no Koto wa wakaranai kara itumo Nakano Udi no mono wo hippaidasu ga, sore dake tokuni tyûsite yonde iu Tumorida.

Udi wa 7-gô de " Kai no Topologische Abbildungen " wo "Renritu" no Baai ni kwakutyôsite iru. Kekwa wa amarini Akke naku mieru. Daga sore de Mondai wa wowatta to omottyô Kiga hayasugiru. n-kai no Baai wo Renritu no Baai ni kwakutyôsuru nimo iroirona Sikata ga aru darô. n-kai no Hôbaisiki

$$(1) \quad \frac{d^n y}{dx^n} + a_1(x) \frac{d^{n-1} y}{dx^{n-1}} + \dots + a_n(x) y = 0$$

ga aru Henkwan de

$$(2) \quad \frac{d^n z}{dt^n} + b_1(t) \frac{d^{n-1} z}{dt^{n-1}} + \dots + b_n(t) z = 0$$

to natta to siyô. Kore wo Renritu no Mondai ni naositara dô naru ka ?

(1) wa

$$(3) \quad \left\{ \begin{array}{l} \frac{dy_1}{dx} = y_2, \dots, \frac{dy_{n-1}}{dx} = y_n \\ \frac{dy_n}{dx} = - \{ a_1(x) y_n + \dots + a_n(x) y_1 \} \end{array} \right.$$

to, (2) wa

$$(4) \quad \frac{dz_1}{dt} = z_2, \dots, \frac{dz_{n-1}}{dt} = z_n$$

$$\frac{dz_n}{dt} = - \{ b_1(t) z_n + \dots + b_n(t) z_1 \}$$

o dōtō de aru. (3) no saisyōno (n-1)-ko wa (4) no saisyōno (n-1)-ko o anazi Katati wo motte iru. Hitagatte tuginō yōna Katati ni Mondai a teisyūtusareru.

m-kono Kwandai

$$5) \quad f_j(x, y_1, \dots, y_n, \frac{dy_1}{dx}, \dots, \frac{dy_n}{dx}) = 0, \quad (j = 1, 2, \dots, m; \quad m < n)$$

to kaenai Monokwan de tagaini uturu koto ga dekiru Renritu-bibunshōteisiki to Class wo kimeru koto. "

Kwankei (5) wo  $\frac{dy_1}{dx} = y_2, \dots, \frac{dy_{n-1}}{dx} = y_n$  to sureba n-kai no Baai ni naru.  $m=0$  to sureba Nakano Udi ga 7-gō de renzita Baai ni naru.

Kono yōna Katati no Mondai wo dasite umaku tokeru ka dō ka wa Betu-mondai da. Mondai wo motto betuna Katati ni sita Hō ga yoi kamo sirenai. Nao n-kai no Baai mo Kai no Zero-ten ni kwansuru Mondai wo Renritu no Baai ni kwakubyōsuru ni atatte mo onazi yōna Tyūi ga Hituyō de aru koto wo tukekuwaete okitai.

24. 8. 1934.