

$$f(t, 3, 1) = \frac{E}{H} t(4) - \frac{1}{EH} \sqrt{2\beta z + c}$$

【1c5】とは【1c5a】and【1c5b】のことだ。

【1c5a】 $\alpha > 0$

【1c5b】 $\forall t \in \mathbb{R} (\{4\}) ; [t(4) \leq 0 \Rightarrow \text{【1c5b1】}] \text{ and } [t(4) \geq 0 \Rightarrow \text{【1c5b2】}]$

【1c5b1】 $\exists z \in \mathbb{R} ; z = E f(t, 1, 1) + b$ and

$$t(4) = -\frac{1}{\alpha} \sqrt{\alpha z^2 + 2\beta z + c} + \frac{\beta}{\alpha \sqrt{\alpha}} \cosh^{-1} \left(\frac{\alpha z + \beta}{\sqrt{\beta^2 - \alpha c}} \right) \text{ and}$$

$$f(t, 2, 1) = a(2) \frac{1}{\sqrt{\alpha}} \cosh^{-1} \left(\frac{\alpha z + \beta}{\sqrt{\beta^2 - \alpha c}} \right) \text{ and}$$

$$f(t, 3, 1) = \frac{E}{H} t(4) + \frac{1}{EH} \sqrt{\alpha z^2 + 2\beta z + c}$$

【1c5b2】 $\exists z \in \mathbb{R} ; z = E f(t, 1, 1) + b$ and

$$t(4) = \frac{1}{\alpha} \sqrt{\alpha z^2 + 2\beta z + c} - \frac{\beta}{\alpha \sqrt{\alpha}} \cosh^{-1} \left(\frac{\alpha z + \beta}{\sqrt{\beta^2 - \alpha c}} \right) \text{ and}$$

$$f(t, 2, 1) = a(2) \frac{1}{\sqrt{\alpha}} \cosh^{-1} \left(\frac{\alpha z + \beta}{\sqrt{\beta^2 - \alpha c}} \right) \text{ and}$$

$$f(t, 3, 1) = \frac{E}{H} t(4) - \frac{1}{EH} \sqrt{\alpha z^2 + 2\beta z + c}$$

【2c1】とは【2c1a】and【2c1b】のことだ。

【2c1a】 $E > 0$ and $H = 0$

【2c1b】 $\forall t \in \mathbb{R} (\{4\}) ;$

$$f(t, 1, 1) = \sqrt{[t(4)]^2 + \left(\frac{b}{E}\right)^2} - \frac{b}{E} \text{ and}$$

$$f(t, 2, 1) = \frac{a(2)}{E} \sinh^{-1} \left(\frac{E}{b} t(4) \right) \text{ and}$$

$$f(t, 3, 1) = \frac{a(3)}{E} \sinh^{-1} \left(\frac{E}{b} t(4) \right)$$