Non-div formulas

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11:52 AM

$F \in TAut_2$ $\quad F: x+y \mapsto \log e^x e^y$ "such F is in Sol"

$\Phi_F = (F^{12,3})^{-1}(F^{1,2})^{-1} F^{23} F^{1,23}$ is in $SAut_3$ &

satisfies $\quad \Phi^{123}\Phi^{1,23,4}\Phi^{234} = \Phi^{12,3,4}\Phi^{1,2,34}$ $\quad (\pentagon)$

In tdr_2, $\quad r=(y,0)$ satisfies 6T $\quad t=(y,x)$ satisfies 4T

$R = e^r$ satisfies YB: $R^{12}R^{13}R^{23} = R^{23}R^{13}R^{12}$

and also $R^{12,3} = R^{13}R^{23}$ & $F^{23}R^{1,23}(F^{23})^{-1} = R^{12}R^{13}$

Def/claim $\tau(F) = RF^{2,1}e^{-t/2}$ is an involution on Sol; $Sol^\tau := \{F : \tau(F) = F\}$ is non-empty.

claim $\Phi_{\tau(F)} = (\Phi_F^{321})^{-1}$; if $F \in Sol^\tau$, then

Hex$_+$ $\quad e^{(t^{13}+t^{23})/2} = \Phi^{213} e^{t^{13}/2} (\Phi^{231})^{-1} e^{t^{23}/2} \Phi^{321}$

Hex$_-$ $\quad e^{(t^{12}+t^{13})/2} = (\Phi^{132})^{-1} e^{t^{13}/2} \Phi^{312} e^{t^{12}/2} \Phi$ &

Challanges 1. Verify. 2. Understand. 3. Use for computations.