The AT Connection

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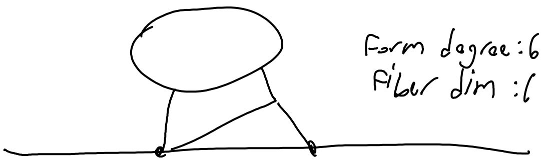
8:37 PM

From Torossian's talk in Montpellier:

<u>Notation</u> $\widehat{ber}(x) = \sum_{n\geq 2} \frac{b_n}{n\cdot n!} x^n = \log\left(\frac{\sinh x/2}{x/2}\right)$

Prop $ch(x,y) = x+y+\sum_{m\geq 2}\ \sum_{\substack{\Gamma \text{ Lie} \\ \text{type} \\ \text{graph} \\ (m,2)}} w_\Gamma\, \Gamma(x,y)$ ← Lie word associated to Γ

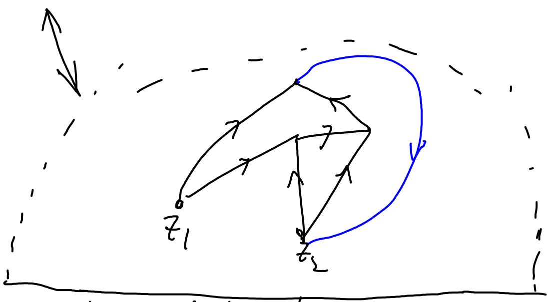
Adler said J $\quad duf(x,y) = \frac{1}{2}\left(\widehat{ber}(x) + \widehat{ber}(y) - \widehat{ber}(ch(x,y))\right) = \sum_{\substack{\Gamma \\ \text{wheel} \\ \text{type graph.}}} \frac{w_\Gamma}{|Aut(\Gamma)|} tr(\Gamma)$



Form degree: 6
Fiber dim: 6

Let $F^{(i)}(x,y) = \sum_{\substack{\text{Lie-type} \\ \text{graphs } \Gamma}} \pi_*(\Omega_{\Gamma^{(i)}})\, \Gamma(x,y)$

Then $(F^{(1)}, F^{(2)})$ is a tder-valued flat connection.



A contribution to $\Omega_{\Gamma^{(2)}}$
Form degree $= 7$
Fiber dimension $= 6$