Peter Lee on November 3, 2009

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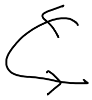
Manin triple: $(\mathfrak{g}, \mathfrak{g}_+, \mathfrak{g}_-)$ s.t. ....

$\langle e_i \rangle$ a basis of $\mathfrak{g}_-$

$\langle e^i \rangle$ the dual basis of $\mathfrak{g}_+$

$r = \sum e^i \otimes e_i \in \mathfrak{g}_+ \otimes \mathfrak{g}_- \subset \mathfrak{g} \otimes \mathfrak{g}$

"=" 

.... more on the diagrammatic calculus.

Drinfel'd double: Let $\mathfrak{a}$ an LBA, $(\mathfrak{g}, \mathfrak{a}, \mathfrak{a}^*)$ be the associated Manin triple. Let $r = \sum e^i \otimes e_i \subset \mathfrak{a}^* \otimes \mathfrak{a}$ as before.

<u>Claim</u> r gives a quasi-triangular LBA structure on $\mathfrak{g}$.

$$\delta_{\mathfrak{g}} = \delta_{\mathfrak{a}} - \delta_{\mathfrak{a}^*}$$

We still need to show that $r + r_{21}$ is $\mathfrak{g}$-invariant.

And that $CYB(r) = 0$ ....

This suggests that there is a map $\vec{\mathcal{A}} \longrightarrow \vec{\mathcal{A}}$, adjoint to the "double" $\mathfrak{a} \to \mathfrak{g}$. What is it? Surely it is trivial.