

Topological Manin Triples

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9:59 AM

The following comes from EK1, page 24:

Let \mathfrak{g} be a Lie algebra with a nondegenerate invariant inner product \langle, \rangle . So far we have no topology on \mathfrak{g} . Let $\mathfrak{g}_+, \mathfrak{g}_-$ be isotropic Lie subalgebras in \mathfrak{g} , such that $\mathfrak{g} = \mathfrak{g}_+ \oplus \mathfrak{g}_-$ as a vector space. The inner product \langle, \rangle defines an embedding $\mathfrak{g}_- \rightarrow \mathfrak{g}_+^*$. If this embedding is an isomorphism then we equip \mathfrak{g} with a topology, by putting the discrete topology on \mathfrak{g}_+ and the weak topology on \mathfrak{g}_- . If in addition the commutator in \mathfrak{g} is continuous in this topology then the triple $(\mathfrak{g}, \mathfrak{g}_+, \mathfrak{g}_-)$ is called a Manin triple.

Question Does this have a diagrammatic interpretation?

A diagrammatic equation consisting of a horizontal line with four upward-pointing arrows on top of it. To the right of this sequence is an equals sign followed by a question mark and a small circle below the question mark.