

Re: A classical mechanics aperitif

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To: sci-physics-research@moderators.isc.org

Larne Pekowsky wrote:

> *I have a few more questions at this point. First, the connection
> between exponentiation and integration here seems very deep and more
> than a little mysterious. Anyone have any insights on this? Second,
> while it's cool that we have a Lie group and algebra, what does that
> tell us about what's actually going on? Is this situation too simple
> to see the utility? I gather that there are other relevant Lie
> algebras/groups, notably the algebra given by the Poisson brackets on
> functions. I assume there's some relationship between this algebra
> and the one on the hamiltonian, and that this relationship has
> something to do with $h=dH$?*

You may find the book by Marsden and Ratiu interesting.

It is all about Lie algebras and symplectic geometry in mechanics.

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