

## Re: Lie supergroups

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I'd like to clarify a couple of things. I know what a supermanifold is (with the coordinates taking on values in a Grassman algebra) and I do know one of the definitions of a Lie supergroup is a differentiable supermanifold with a smooth (analytic) group structure. However, the representations of such a supergroup act upon vector spaces over a Grassman algebra. When I think of a Lie superalgebra, I think of a real/complex  $\mathbb{Z}_2$  graded algebra with its representations acting upon  $\mathbb{Z}_2$  graded real/complex vector spaces. I guess I should have been more precise in my earlier question. What is the analog of the Lie group for a real/complex  $\mathbb{Z}_2$  graded Lie superalgebra (not a Lie superalgebra over a Grassman algebra)? The reason I'm asking this is because I'd like the representations of such a Lie supergroup to act upon  $\mathbb{Z}_2$  graded real/complex vector spaces instead of a vector superspace.