Multisymplectic observables and higher Courant algebroids

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Abstract:

I will report on joint work with Antonio Miti. Consider a closed, non-degenerate differential form ω of any degree. Associated to it there is an L_{∞}-algebra of observables, and an L_{∞}-algebra of sections of the higher Courant algebroid twisted by ω. Our main result is that there is an L_{∞}-embedding of former into the latter. We display explicit formulae for the embedding, involving the Bernoulli numbers. For symplectic forms this is reduces to a prequantization map, and when ω is a 3-form the embedding was found by Rogers around 2012.