



CENTRO DE
MATEMÁTICA
UNIVERSIDADE DO PORTO

ALGEBRA AND GEOMETRY JOINT SEMINAR

The universal Lie infinity-algebroid of a singular foliation

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Abstract. A smooth (real analytic or complex) manifold is said to be foliated when it is partitioned into immersed and connected sub-manifolds. It appears that the same foliation can be induced by totally different sets of vector fields. Thus, we turn our attention to the sheaves of vector fields that induce an integrable distribution. We have noticed that if this sheaf is resolved by a graded vector bundle E (at the level of sections), one can lift the Lie bracket of vector fields into a Lie ∞ -algebroid structure on E . A Lie ∞ -algebroid is a generalization of a Lie algebroid, as a Lie ∞ -algebra is a generalization of a Lie algebra. We call the above mentioned Lie ∞ -algebroid structure over E , ‘the universal Lie ∞ -algebroid associated to the given foliation’; universality is justified by the fact that two such structures are Lie ∞ -isomorphic up to homotopy. If time permits, we will discuss how this construction may be related to BFV-BRST formalism.

WEDNESDAY, OCTOBER 11

14H00

ROOM 1.08

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