

Goldman bracket : center and geometric intersection number

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In the 1980s Goldman introduced a Lie algebra structure on the free vector space generated by the free homotopy classes of oriented closed curves in any orientable surface F . This Lie bracket is known as the Goldman bracket and the Lie algebra is known as the Goldman Lie algebra. In this talk I will discuss some basic properties of the Goldman bracket and its relation with Teichmüller space. I will also show how techniques from geometric group theory could be used to compute the center of the Goldman Lie algebra. I will mention some open problems related to the Goldman bracket. If time permits, I will show a method to compute geometric intersection number using Goldman bracket.