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The injection from the grt Lie algebra into the double shuffle Lie algebra: an elementary proof

Thursday 21 September 2023 18:00 (55 minutes)

By interpreting the pentagon equation defining the Grothendieck-Teichmüller Lie algebra as a condition on the normal form of certain elements in the 5-strand Lie braid algebra, we show how the double shuffle defining equations arise naturally in grt. This gives an intrinsic and elementary proof of the injection of grt into double shuffle first shown by H. Furusho using double polylogarithms.

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