Abstract

We introduce a more general notion of twisted intertwining operator than the one introduced by the speaker in 2017. Using these most general twisted intertwining operators, we introduce a notion of P(z)-tensor product of two twisted V-modules for a nonzero complex number z and give a construction of such a P(z)-tensor product under suitable assumptions. We formulate a P(z)-compatibility condition and a P(z)-grading-restriction condition. Using these conditions, we give another construction of the P(z)-tensor product. This is the first step towards the construction of the conjectured G-braided G-crossed tensor category structure on the category of suitable g-twisted V-modules for g in a finite subgroup G of the automorphism group of V. The method we use is necessarily complex analytic. This is a joint work with Jishen Du.