The Family of Induced Representations for Quantum Groups at a Primitive 4th Root of Unity

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Abstract. For any non-zero complex number, we can construct an induced representation of $U_\xi(\mathfrak{sl}_2)$ for ξ a root of unity. As shown by Ohtsuki, these representations can be used to define a knot invariant, in this case it is Alexander polynomial. From the rank one case, we build the analogous rank two invariant and examine the tensor product structure of these representations, and the resulting "$\mathfrak{sl}_3$" skein relation.