REPRESENTATIONS OF THE SMALL QUASI-QUANTUM GROUP

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Abstract:

In this talk, we give the representations of the small quantum group $\overline{U}_q$ and the small quasi-quantum group $\widetilde{U}_q$ respectively, where q is a primitive n-th root of unity and $n > 2$ is odd. All finite dimensional indecomposable $\widetilde{U}_q$-modules are described and classified. Moreover, the decomposition rules for the tensor products of $\widetilde{U}_q$-modules are given. Finally, we describe the structures of the projective class ring $r_p(\widetilde{U}_q)$ and the Green ring $r(\widetilde{U}_q)$. We show that $r(\overline{U}_q)$ is isomorphic to a subring of $r(\widetilde{U}_q)$, and the stable Green rings $r_{st}(\widetilde{U}_q)$ and $r_{st}(\overline{U}_q)$ are isomorphic. Joint work with Chen Huixiang and Sun Hua.