

Quantum differentials by super-bosonisation

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We expand the Majid's bosonisation $A \bowtie B$, where B is a braided-Hopf algebra in the category of crossed- A -modules, to the bosonisation of their exterior algebras $\Omega(A) \bowtie \Omega(B)$, where $\Omega(B)$ is now a super-braided Hopf algebra in the category of super-crossed- $\Omega(A)$ -modules. The latter is then defined as an exterior algebra of $A \bowtie B$, and we proved that it is a strongly bicovariant calculus. Using this method, we then found a strongly bicovariant calculus of quantum Borel subalgebra of a matrix quantum groups $\mathbb{C}_q[G]$ of Hecke-type R -matrix. This is a joint work with Shahn Majid.