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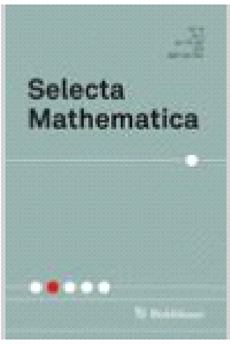

Quantization of Lie bialgebras and shuffle algebras of Lie algebras

B. Enriquez

Page 66:

Define $m_{F^{(n)}}$ as the unique linear map from $F^{(n)} \otimes F^{(n)}$ to $F^{(n)}$, such that for any $(\underline{s}, \underline{t}, \phi)$ and $(\underline{s}', \underline{t}', \phi')$ in P_n, we have

$$m_{F^{(n)}}(z(\underline{s}, \underline{t}, \phi) \otimes z(\underline{s}', \underline{t}', \phi')) = \sum_{(c_1, c_1') \in M_{t_1, s_1'}, \dots, (c_n, c_n') \in M_{t_n, s_n'}}$$

?

A construction analogous to that of Appendix B shows the following:

Proposition C.1. *$(F^{(n)}, m_{F^{(n)}})$ is an associative algebra.*