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## A $q$ -analogue of the $9 - j$ symbols

**Mizan Rahman**

School of Mathematics and Statistics  
Carleton University  
1125 Colonel By Dr.  
Ottawa (Ontario), K2E 7T4  
CANADA

`mrahman@math.carleton.ca`

### **Abstract**

We introduce a  $q$ -analogue of Wigner’s  $9 - j$  symbols following the notational scheme used by Wilson in identifying the  $6 - j$  symbols with Racah polynomials, which eventually led Askey and Wilson to obtain a  $q$ -analogue of them, namely, the  $q$ -Racah polynomials. More importantly, we prove the orthogonality of our analogue in complete generality, as well as derive a polynomial expression for these new polynomials.