Abstract:

The hook length formula for d-complete posets states that the P-partition generating function for them is given by a product in terms of hook lengths. We give a new proof of the hook length formula using q-integrals. The proof is done by a case-by-case analysis consisting of two steps. First, we express the P-partition generating function for each case as a q-integral and then we evaluate the q-integrals. Several q-integrals are evaluated using partial fraction expansion identities and others are verified by computer. This is joint work with Meesue Yoo.