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Jim Haglund* (jhaglund@math.upenn.edu). *A polynomial identity for the Hilbert series of the space of diagonal harmonics.*

A special case of Haiman's identity for the character of the quotient ring of diagonal coinvariants under the diagonal action of the symmetric group yields a formula for the bigraded Hilbert series as a sum of rational functions in q, t . In this talk I will show how a summation identity of Garsia and Zabrocki for Macdonald polynomial Pieri coefficients can be used to transform Haiman's formula for the Hilbert series into an explicit polynomial in q, t with integer coefficients. An equivalent formulation expresses the Hilbert series as the constant term in a certain multivariate Laurent series. (Received July 27, 2010)