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Francesco Brenti* (brenti@mat.uniroma2.it), Dipartimento di Matematica, Università di Roma “Tor Vergata”, Via della Ricerca Scientifica, 1, 00133 Roma, RM, Italy. *Parabolic Kazhdan-Lusztig and R -polynomials for quasi-minuscule quotients.*

Kazhdan-Lusztig and R -polynomials were first defined by Kazhdan and Lusztig in [Invent. Math., 53 (1979), 165-184]. Since then they have found numerous applications, especially to representation theory and to the geometry of Schubert varieties. In 1987 Deodhar introduced parabolic analogues of these polynomials. These are related to their ordinary counterparts in several ways, and also play a direct role in other areas, including geometry of partial flag manifolds and the theory of Macdonald polynomials.

In this talk I will study these polynomials for the quasi-minuscule quotients of the symmetric group. More precisely, I will first show how these quotients are closely related to “rooted partitions” and then I will give explicit, closed combinatorial formulas for the polynomials. For the Kazhdan-Lusztig ones these are based on a class of rooted partitions which seems to be new and imply that they are always (either zero or) a power of q , and that they are not combinatorial invariants. The results presented imply those for the Hermitian symmetric quotients obtained in [F. Brenti, Pacific J. Math., 207 (2002), 257-286]. I will conclude with a general conjecture.

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