

BASES OF POLYNOMIALS IN SEVERAL VARIABLES.

ABSTRACT. We give several linear bases of the ring of polynomials in n indeterminates : *Schubert polynomials, Grothendieck polynomials, flag functions, Demazure characters (key polynomials) for types A, B, C, D , Macdonald polynomials.*

All these bases are triangular in the basis of monomials, with respect to appropriate orders. We introduce different scalar products and compute the adjoint bases of the previous polynomials.

We provide recursions (*transition formulas*) which allow to cut these polynomials into smaller ones of the same family.

We recover the multiplicative structure of the ring of polynomials by describing the multiplication by a single variable.

By symmetrization, we find back the usual bases of symmetric functions.