

# Ανισότητες για συμμετρικά πολυώνυμα και ροπές αθροίσματος εκθετικών τ.μ.

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## Περίληψη

We establish  $L_2$ -type inequalities for the complete homogeneous symmetric polynomial  $h_d(a_1, \dots, a_n)$ , resolving a conjecture of Hunter and highlighting its probabilistic interpretation as the moment of a marginal of a standard exponential random vector. Our analysis is divided into three distinct regimes:

- (i) the conditional case, where the geometric constraint  $\sum_{i=1}^n a_i = 0$  is imposed;
- (ii) the positive case, where all coefficients are positive; and
- (iii) the unconditional case, with no assumptions on the coefficients.