



Multivariate approximation in downward closed polynomial spaces

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We present some results for multivariate approximation in polynomial spaces associated with downward closed index sets. By means of such results:

- we derive error estimates and convergence rates for the approximation on downward closed polynomial spaces of the solution to some relevant elliptic PDEs with parametric or stochastic diffusion coefficient,
- and we discuss adaptive and nonadaptive numerical algorithms based on interpolation or discrete least-squares approximation.