

THE SCOTT-ZHANG INTERPOLATION AND AN APPLICATION IN JUMP-INDEPENDENT L^2 PROJECTION

SHANGYOU ZHANG

ABSTRACT. We will review the Scott-Zhang interpolation operator for non-smooth functions, and some extensions. We will show an application of the operator for the theory of L^2 projection in the finite element space. It is proved such a projection can be stable and quasi-optimal independent of the jump of the coefficient/weight.

DEPARTMENT OF MATHEMATICAL SCIENCES, UNIVERSITY OF DELAWARE.
E-mail address: `szhang@udel.edu`