

# Degree of multivariate approximation by superposition of a Sigmoidal function<sup>\*</sup>

N.W. Hahm

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**Abstract.** Multivariate approximation by superposition of a sigmoidal function has been investigated by many authors ([2], [3], [4]). Cybenko [3] suggested a non-constructive proof of multivariate approximation and Hahm [4] showed the density result of multivariate approximation using a constructive proof. In this paper, we examine the complexity result of multivariate approximation by superposition of a sigmoidal function and suggest an approximation order using the modulus of continuity. Our proofs are constructive.

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