INTEGRASI NUMERIK MENGGUNAKAN METODE GAUS KUADRATUR DENGAN PENDEKATAN INTERPOLASI HERMIT DAN POLINOMIAL LEGENDRE

Sutrisno, Robertus Heri
Jurusan Matematika FMIPA UNDIP Semarang

Abstract. Gaus Quadrature Formula is better alternative than Newton Cotes Formula. The principal of Gaus Quadrature Formula determine unequal interval to minimize the error of approximation of integration. Formulation Gaus Quadrature on limited interval for numerical integration can use Hermite Interpolation Formula. Then, using the properties of Legendre polynomial which orthogonal on [-1,1] can determined nodes and weights. So, based on nodes and weight can be determined a Gaus – Legendre Quadratur Formula.

Keywords: Gauss Quadrature Method, Legendre Polynomial, Hermite Interpolation, Lagrange Interpolation, Error, Gauss – Legendre Quadrature Formula.