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Rational Function Approximationof a Fundamental Fractional OrderTransfer Function

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Abstract: This paper introduces a rational function approximation of thefractional order transfer function ; for 0 to 0:5. Thisfractional order transfer function is one of the fundamental functions of thelinear fractional system of commensurate order corresponding to pure complexconjugate poles or eigenvalues, in sa. Hence, the proposed approximation willbe used in the solution of the linear fractional systems of commensurate order.Illustrative examples are given to show the exactitude and the efficiency of theapproximation method.

Keywords : Fractional power zero Linear fractional system Irrational transfer function Rational transfer function