

# QUADRATURE RULES FOR SINGULAR INTEGRALS ON UNBOUNDED INTERVALS

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The importance of singular and hypersingular integral transforms, coming from their many applications, justifies some interest in their numerical approximation. The literature about the numerical evaluation of such integrals on bounded intervals is wide and quite satisfactory; instead only few papers deal with the numerical evaluation of such integral transforms on half-infinite intervals or on the real line. Here, we propose some quadrature formulas for integrals of this kind and we compare the new convergence and stability results with that in [1], [2]. Further, following the idea of [3], we construct another quadrature rule, characterized by the Möbius transformation and the Gauss-Jacobi quadrature formula. Also in this case we prove the convergence and the stability.

## References

- [1] M. R. Capobianco, G. Criscuolo, R. Giova *A stable and convergent algorithm to evaluate the Hilbert transform*, Numerical Algorithms, 28 (2001), pp. 11–26.
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- [3] W. Gautschi *Quadrature formulae on half-infinite intervals*, BIT Numerical Mathematics, 31 (1991), pp. 438–446.