

# Evaluation of Definite Integrals via the Calculus of Residues

Betreuer: Richard Kowar

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## Abstract

The first goal of this work is to give a short and clear introduction into the calculus of residues and then apply it to evaluate prominent Fourier integrals. While doing this we focus on definite integrals that turn up in string oscillation and wave propagation. The books [3, 1] and the formulary [2] will be very helpful for this bachelor work.

## References

- [1] J. JÄNICH, Funktionentheorie, *Springer-Verlag*, 1993.
- [2] L. PAPULA, Mathematische Formelsammlung, *Vieweg-Teubner Verlag*, 2009.
- [3] L. SERGE, Complex Analysis, *Springer-Verlag*, 1993.