

Thesis name: Schönhage-Strassen algorithm and the mathematics behind it  
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Abstrakt: This thesis deals with the Schönhage-Strassen algorithm for multiplying large integers with complexity  $O(n \log n \log \log n)$ . It contains the necessary theoretical foundations for describing and understanding the algorithm and its complexity. A significant attention is devoted to the Discrete Fourier Transform in complex and modular arithmetic, with two different interpretations of the FFT algorithm.

Keywords: rings, polynomials, modul arithmetic, Fourier transform