

In this thesis we search for sufficient and necessary conditions for non absolute convergence of Newton integral of function of the form $\frac{\sin \varphi(x)}{x}$. Importantly we analyse how the oscilation of the sine function influences the convergence of the integral. We are dealing with continous non-decreasing functions such that $\lim_{x \rightarrow \infty} \varphi(x) = \infty$. We proved that bilipschitz of φ is not sufficient. Nevertheless, we proved several theorems about sufficient conditions for the convergence of the integral.