



Charles Proteus Steinmetz

1865-1923

The use of complex numbers to solve ac circuit problems, the so-called phasor method, was first done by the German-Austrian mathematician and electrical engineer Charles Proteus Steinmetz in a paper presented in 1893. He is noted also for the laws of hysteresis and for his work in manufactured lightning.

Steinmetz was born in Breslau, Germany, the son of a government railway worker. He was deformed from birth and lost his mother when he was 1 year old, but this did not keep him from becoming a scientific genius. Just as his work on hysteresis later attracted the attention of the scientific community, his political activities while he was at the University at Breslau attracted the police. He was forced to flee the country just as he had finished the work for his doctorate which he never received. He did electrical research in the United States, primarily with the General Electric Company. His paper on complex numbers revolutionized the analysis of ac circuits, though it was said at the time that no one but Steinmetz understood the method. In 1897 he also published the first book to reduce ac calculations to a science.

(Source: D. Johnson, J. Johnson and J. Hilborn, *Electric Circuit Analysis*, Prentice-Hall, 1989)