Jean Baptiste Joseph Fourier

1768-1830

In 1822 a greatly influential pioneer work on the mathematical theory of heat conduction was published by the great French mathematician, Egyptologist, and administrator Jean Baptiste Joseph Fourier. It was a masterpiece not only because of the new field of heat conduction that it explored, but also because of the infinite series of sinusoids that it developed; the latter became famous as the Fourier series. With the Fourier series, we are no longer restricted in the shortcut phasor methods to circuits whose inputs are sinusoids.

Fourier was born in Auxerre, France, the son of a tailor. He attended a local military school conducted by Benedictine monks and showed such proficiency in mathematics that he later became a mathematics teacher in the school. Like most Frenchmen his age he was swept into the politics of the French Revolution and its aftermath and more than once came near to losing his life. He was one of the first teachers in the newly formed Ecole Polytechnique and later became its professor of mathematical analysis. At age 30 Fourier was appointed scientific advisor by Napoleon on an expedition to Egypt and for 4 years was secretary of the Institute d'Egypte, the work of which marked Egyptology as a separate discipline. He was prefect of the department of Isere from 1801 to 1814, where he wrote his famous treatise on heat conduction. He completed a book on algebraic equations just before his death in 1830.

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