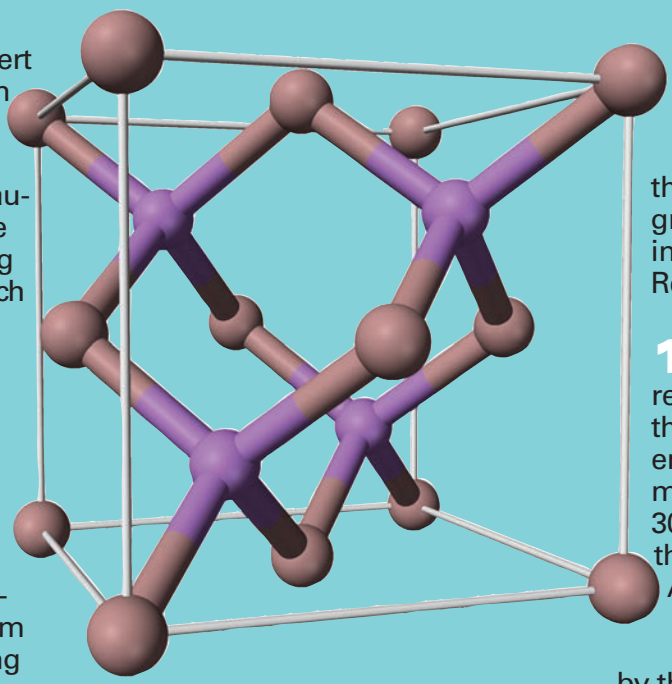
Microwave**Journal's**

STEM Works

Gallium Arsenide [ga-lē-əm] [är-sə-nīd]

Gallium arsenide (GaAs) is a compound of the elements gallium and arsenic. It is a III/V semiconductor, and is used in the manufacture of devices such as microwave frequency integrated circuits, monolithic microwave integrated circuits, infrared light-emitting diodes, laser diodes, solar cells and optical windows. GaAs is often used as a substrate material for the epitaxial growth of other III-V semiconductors including: InGaAs and GaInNAs.



1250 Alchemist, Albert the Great was the first to form almost pure Arsenic.

1874 Lecoq de Boisbaudran discovers Gallium while studying Zinc. After searching for it for years, he had a hunch that it would be the next element to zinc based on Dmitri Mendeleev's periodic trends.

1907 British radio researcher and assistant to Guglielmo Marconi, Henry Joseph Round discovered infrared emission called electroluminescence from Gallium Arsenide while experimenting with the material and a cat's whisker.

1962 IBM physicist J.B. Gunn's research on gallium arsenide (GaAs) led to the discovery of high frequency oscillation of the electrical current flowing through certain semiconducting solids—now known as the 'Gunn Effect'. This breakthrough paved the way for early military detectors to be constructed using Gunn diodes.

1978 Tektronix engineers begin experimenting with gallium arsenide as the base material for integrated circuits, seven years later TriQuint Semiconductor is formed as a subsidiary of Tektronix.

1985 GaAs microprocessors developed by RCA are considered for the Star Wars program of the U.S. DoD initiated by President Reagan.

1998 RFMD reported that 87% of the company's revenue for the three months ending June 30th were derived from the sale of Gallium Arsenide heterojunction bipolar transistors (manufactured by the company's largest shareholder, TRW).