

Hilbert, Martin**Herschel's investigation of the nature of radiant heat: The limitations of experiment.** (English) [Zbl 0973.01015](#)[Ann. Sci. 56, No. 4, 357-378 \(1999\).](#)

Summary: Herschel's experiments on radiant heat are analysed to see how he understood the role of experiment and how he handled potential difficulties in measurement. He believed that experiments could answer essential questions about nature and was willing to change his mind in light of evidence. Potential problems with data did not shake his confidence in the results of his experiments. Herschel's critic, Leslie, had even less patience with experimental results that did not fit his theory. His harsh condemnations of Herschel's work could not be empirically substantiated, but they pointed to problems of which Herschel was aware. Although the theories of both men about radiant heat have subsequently been abandoned, attempts to address their concerns and differences contributed to the development of the electromagnetic spectrum. The unification of radiant heat and light through the spectrum came about after better instruments made it possible to account for the rival claims of earlier experimenters.

MSC:[01A50](#) History of mathematics in the 18th century**Keywords:**[electromagnetic spectrum](#)**Full Text:** [DOI](#)