

The Evolution of Radiative Transfer Theory

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The *sine qua non* of Radiative Transfer Theory (RTT) is an equation that governs the propagation of light through an absorbing and scattering medium, including perhaps internal sources as well. RTT as we know it today began to take shape in the 18th century but was not conceptually fully formulated until the 21st century. This talk traces the development of RTT from its empirical foundations, through its early mathematical formulations, ending with an overview of recent re-examinations of its foundations. A fast survey will be taken of the contributions by Lommel, Chwolson, Schuster, Planck, Schwarzschild, King, Milne, Gans, Gershun, Ambartsumian, and Preisendorfer, with particular emphasis on Lommel and Ambartsumian. I will finish by outlining a “proper” derivation of the radiative transfer equation as developed in recent years by Mishchenko.

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