itself. It was shown, in particular, how all these principles could be deduced from the classical equation of transfer, and how the equation of transfer could itself be viewed as a local form of the principles of invariance. *Hence, in a word, the interaction principle was viewed in Ref. [251] as an end of a set of long conceptual and deductive trails, the main trail starting from Schuster's initial insight in 1905.* Thus in [251] the roots of interaction principle were established in the classical origins of the subject along with electromagnetic and axiomatic bases of the principle. *With this in mind we have taken the alternate view in the present chapter that the interaction principle is a basic means of formulating radiative transfer theory, a single working principle from which the salient algebraic structures of the theory may be deduced.* The thirty-eight enumerated examples throughout this chapter, starting in Sec. 3.4 and ending in Sec. 3.17, have shown that the interaction principle can indeed be used as a starting point for the construction of the principles of invariance on all types of three-dimensional media, the various classical interreflection problems of surfaces, the beam transmittance function for paths, the classical attenuation and scattering functions of the media used in the equation of transfer, and the equation of transfer itself.

Conclusion

In sum, then, the work of the monograph [251] constituted a necessary prerequisite for the establishment of the interaction principle. The present work no longer views the interaction principle as an end of research but rather as a means of application and a source of new research in radiative transfer theory and general linear transport theories (even beyond radiative transfer, as in hydrodynamics, acoustics, e. m. wave propagation, etc.). The first application of the interaction principle was to the development of the discrete-space theory of radiative transfer in Ref. [251]. These applications are continued in this chapter, and the following chapters of the present work.

3.19 Bibliographic Notes for Chapter 3

The interaction principle as given in Sec. 3.2 was first formulated in Ref. [251], the end result of an extended series of generalizations. A historical sketch of the evolution of the main lines of radiative transfer *theory* (not its manifold applications) which are pertinent to the interaction principle is given cumulatively in the bibliographic notes for the chapters in Ref. [251]. The formulation of the interaction method, as summarized in Sec. 3.18, is new.

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