9.7 Bibliographic Notes for Chapter 9

The development of the directly observable quantities for light fields in natural hydrosols, as presented in Sec. 9.2, is based on Ref. [222]. A published version of this reference was made available in the literature in Ref. [247]. The covariation o-f K (z , -) with D (z , -) is based on the results in Ref. [242]. The analytical representation of the observable reflectance function developed in Sec. 9.4 is drawn from Ref. [246].

The concept of contrast in the form of a relative difference of two radiances occurs in the writings of Mecke [174] and was applied by Koschmieder [141] in his classical studies of 1924. Systematic use of the concept of contrast was made by Duntley [71,72] in 1948 in the study of visibility in the atmosphere. Further uses of contrast in the atmosphere are given in Middleton's [177] work. Applications of the contrast concept to hydrologic optics were reported [821 , and systematically generalized-[210]. These generalizations were subsequently applied to the atmospheric context in [80] and in [228]. The discussion of Sec. 9.5 is an outgrowth of the work in [210].

The optical properties of plane-parallel media were first studied via the one-D model (the Schuster two-flow theory) discussed in Sec. 8.10. The definitions and classifications of the optical properties in Sec. 9.1 and Sec. 9.6 are based on the unifying concept of the interaction principle and are for the most part new. Some preliminary classifications preparing the way to those in Sec. 9.1 and 9.6 are given in [210] and [247].