

光电工程

## 一种研究海水消光特性的简易方法

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**摘要** 围绕光在海洋中的消光特性对水下侦查设备的影响, 从分析海水对光的吸收和散射特性出发, 重点阐述了海洋中无机盐溶解质、悬浮物和黄色物质的消光特性, 发现: 可见光波段海水中光吸收的主要因素是纯水、浮游生物和黄色物质, 而无机溶解质主要有散射效应。在比色皿长度下用分光光度计测量了海水的光谱消光特性, 发现与纯净水透过率相比, 连云港海域海水的消光特性较强, 葫芦岛海域海水的消光特性较弱, 海南岛海域海水消光特性居中, 这说明无机盐溶解质、悬浮物和黄色物质很大程度上影响着海水的消光特性。

**关键词** [消光特性](#) [光吸收和散射](#) [分光光度计](#)

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## ethod for investigation of extinction properties of light in seawater

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### Abstract

Investigations on the extinction properties of light in seawater has far reaching significance in the field of underwater detection. Proceeding from the analysis of absorption and scattering properties of light in seawater, the extinction properties of inorganic salt solution, suspend particles and yellow material are emphatically discussed. It is shown that the main factors of the absorption of light in seawater are pure water, plankton and yellow material. The inorganic compounds mainly account for the scattering effect. The spectrum extinction properties of different seawaters are measured by spectrophotometer. In comparison with the pure water, among Hulu Island, Hainan Island and Lianyung Port, the extinction index of the seawater in Lianyung Port is biggest, and Hulu Island is weakest. Thus, inorganic salt solution, suspend particles and yellow material can be taken as the main components that affect the extinction properties of light in seawater.

**Key words** [extinction properties](#) [light absorption and scattering](#) [spectrophotometer](#)

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