

J. Lake Sci.(湖泊科学),2007,19(3):261-268
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# 小球藻和铜绿微囊藻的高浓度Chl.a高光谱定量模型

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摘要：本研究将地物高光谱遥感技术应用于室内实验，从而得到小球藻和铜绿微囊藻的高光谱特征．通过多种半经验方法，如单波段、波段比值和微分法，建立了两藻种最优的Chl.a高光谱定量模型，并与室外情况进行了对比．结果表明：小球藻的最优定量模型为Chl.a=174.6+1138292 (R703)'+2.3(109 [(R703)']2 (p＜0.01)，相应的方法适宜性为：一阶微分法＞单波段法＞波段比值法；铜绿微囊藻的最优定量模型为Chl.a= 5299164 (R757) 1.9773 (p＜0.01)，相应的方法适宜性为：单波段法＞波段比值法＞一阶微分法；从高光谱特征来看，小球藻在540nm和700nm附近存在明显的特征波峰，其位置随Chl.a浓度增大而向长波方向偏离，铜绿微囊藻在530nm、660nm和700nm附近存在3个较强的特征波峰，在610nm和680nm附近存在明显的波谷；与以往室外研究不同的是铜绿微囊藻的反射率在400-500nm之间的R值并不低，是因为没有非藻类颗粒物的影响，总吸收明显降低．
关键词：叶绿素；高光谱；小球藻；铜绿微囊藻；单波段法；波段比值法；一阶微分法

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