



Introduction

**National Laboratory of
Color Science and Engineering
Beijing Institute of Technology
(CSEL China)**

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颜色科学与工程国家专业实验室

Faculties and Students



Courses for Graduated Students

Colorimetry

Advanced Optics

Modern Colour Technology

Colour Management System





Courses for Under-graduated Students

Color Science and Its Application
Colorimetry Experiments
Spectral Technology





Research Areas



Research Areas

On Color science theory

- * Color vision
- * Advanced Colorimetry
- * Color Appearance Theory
- * Image color Theory



Research Areas

On Color Engineering

- *Color Management System (CMS)
- *Computer Color Matching
- *Color measurement instruments
- *Digital Color Atlas
- *Imaging Spectrometer



Current Projects

- (1)全反射式高分辨率大视场傅立叶变换成像光谱仪，国家863， No.2006AA12Z124,200612-200911.**
- (2)基于多光谱图像的蔬菜花卉病虫害辨识技术研究，国家自然科学基金， No.60678052,200701- 200912.**
- (3)中国环境卫星（HJ-1-A）高光谱成像仪数据处理,No.GXTC-0707077,2008-.**
- (4)小型化机载高灵敏度傅立叶变换红外成像光谱仪关键技术，中国航空科学基金， No.20070172003 ,2007-2009.**



Current Projects

- (5) 标准色卡系统的数字化仿真，合作开发，**2006-**。
- (6) 小型测色光谱仪，合作开发**2007-**。
- (7) 八通道窄带实时多光谱成像仪及其应用,海军舰船研究所合作开发，**2006-**。
- (8) 玉石颜色特性检测及评价系统开发，与昆明市合作项目，**2002-**，
- (9) 空间望远光学系统的自适应光学技术（国防**973**），**2006-**
- (10) 火箭发动机尾焰光谱实时检测技术。



Current Projects

(1)彩色印刷样品的色貌及色差问题研究；

国家自然科学基金， 2001001- 2012.12.

(2)高分辨率对地观测系统中的高精度实时运动

成像； 国家973项目， 200901- 2011.12.



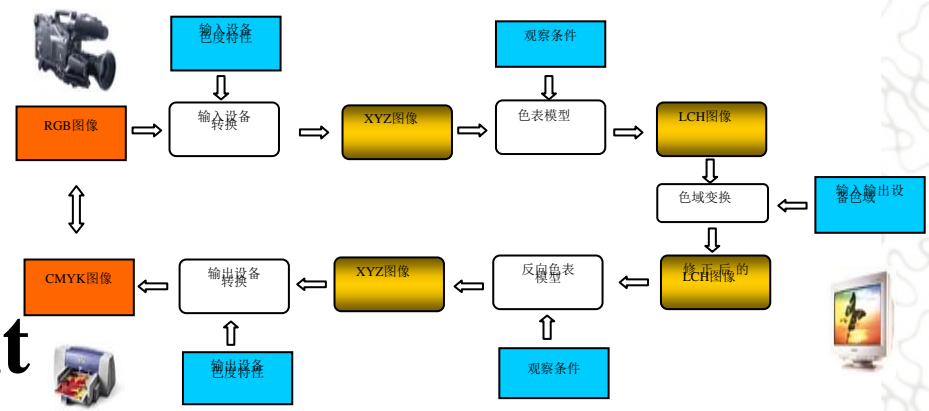
Examples

Device Color Characterization



Digital Atlas

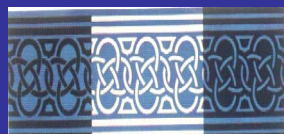
Color Management



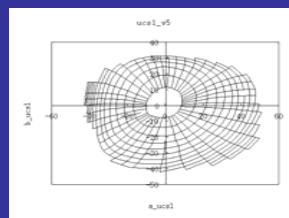
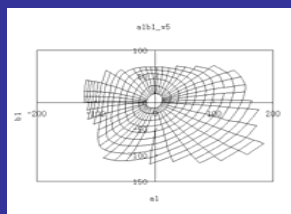


Examples

Color Appearance Theory

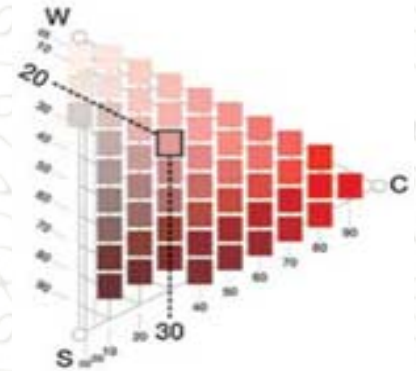
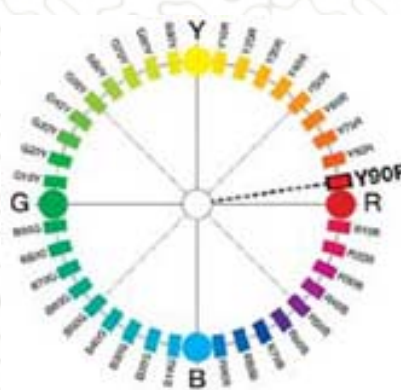
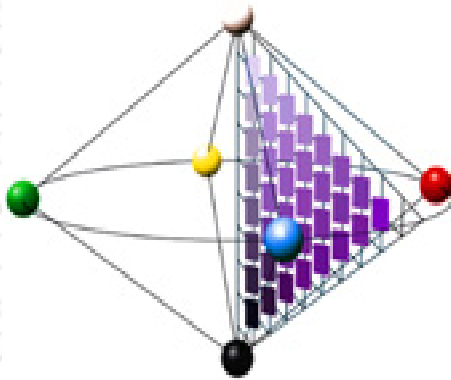
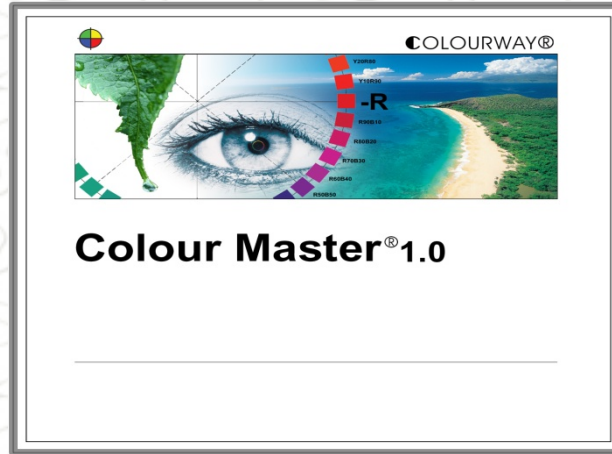


Uniform color spaces





Digital Color Atlas-





8-channels多光谱成像系统

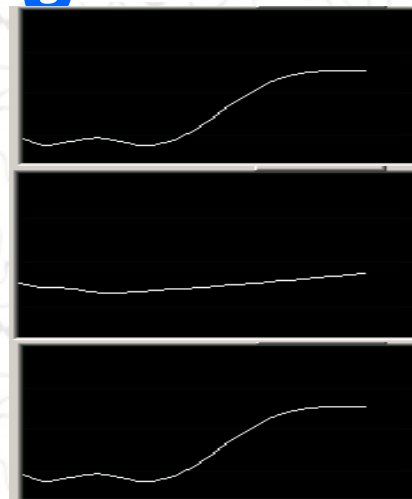
Multi-spectral Imaging



Device



Colour image



spectrum



420nm



450nm



492nm



546nm



589nm



630nm



780nm



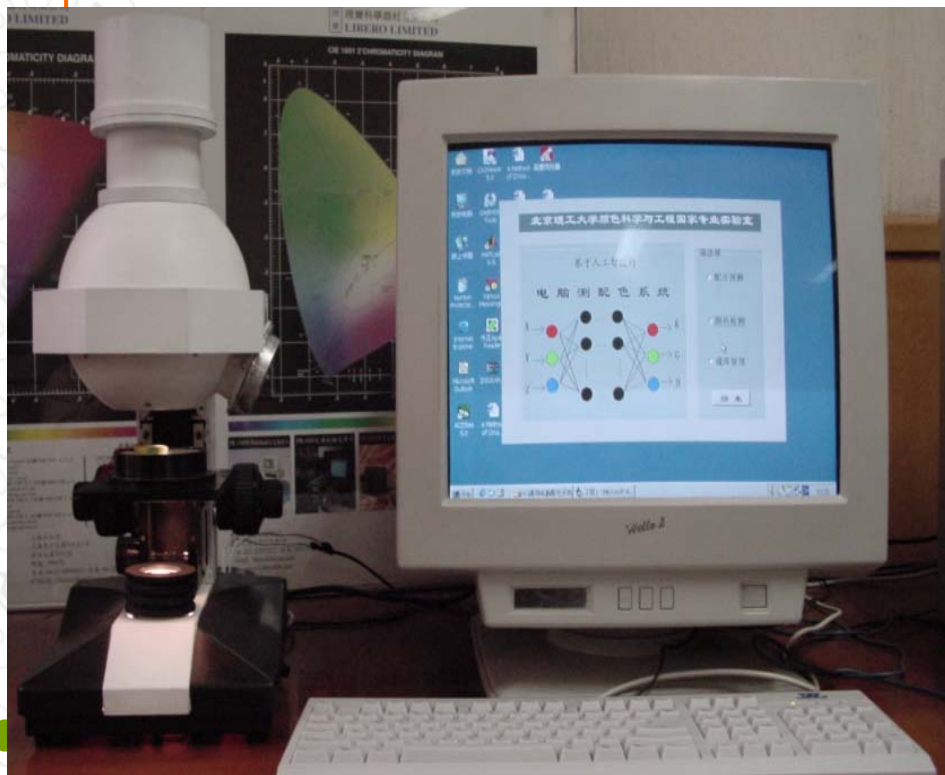
940nm

Channel's images

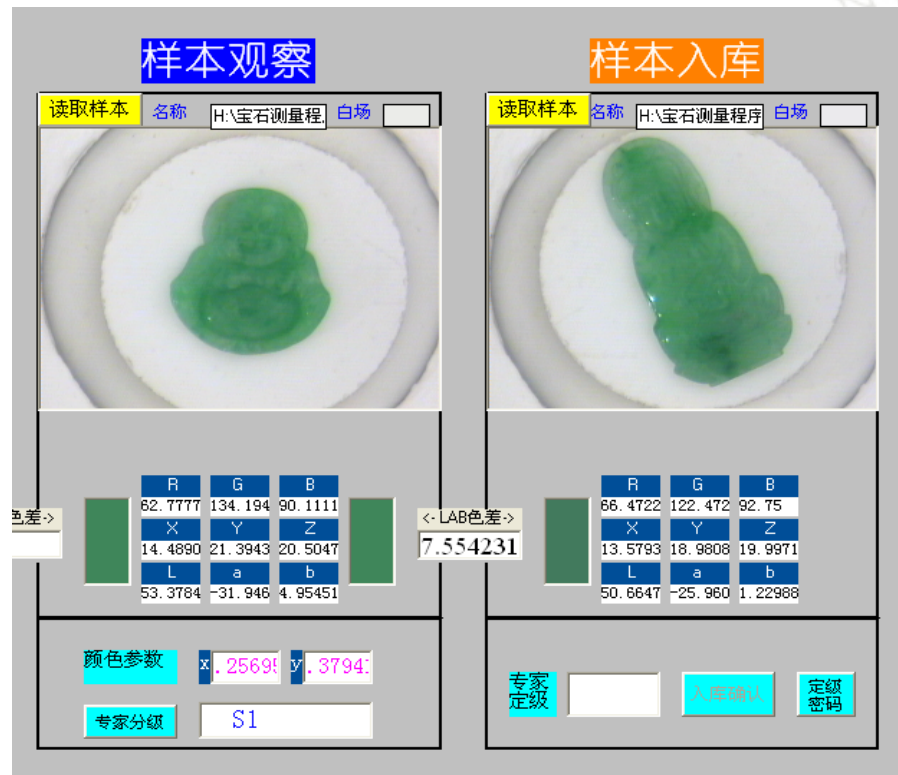


玉石颜色检测分级系统

Jade colour measurement



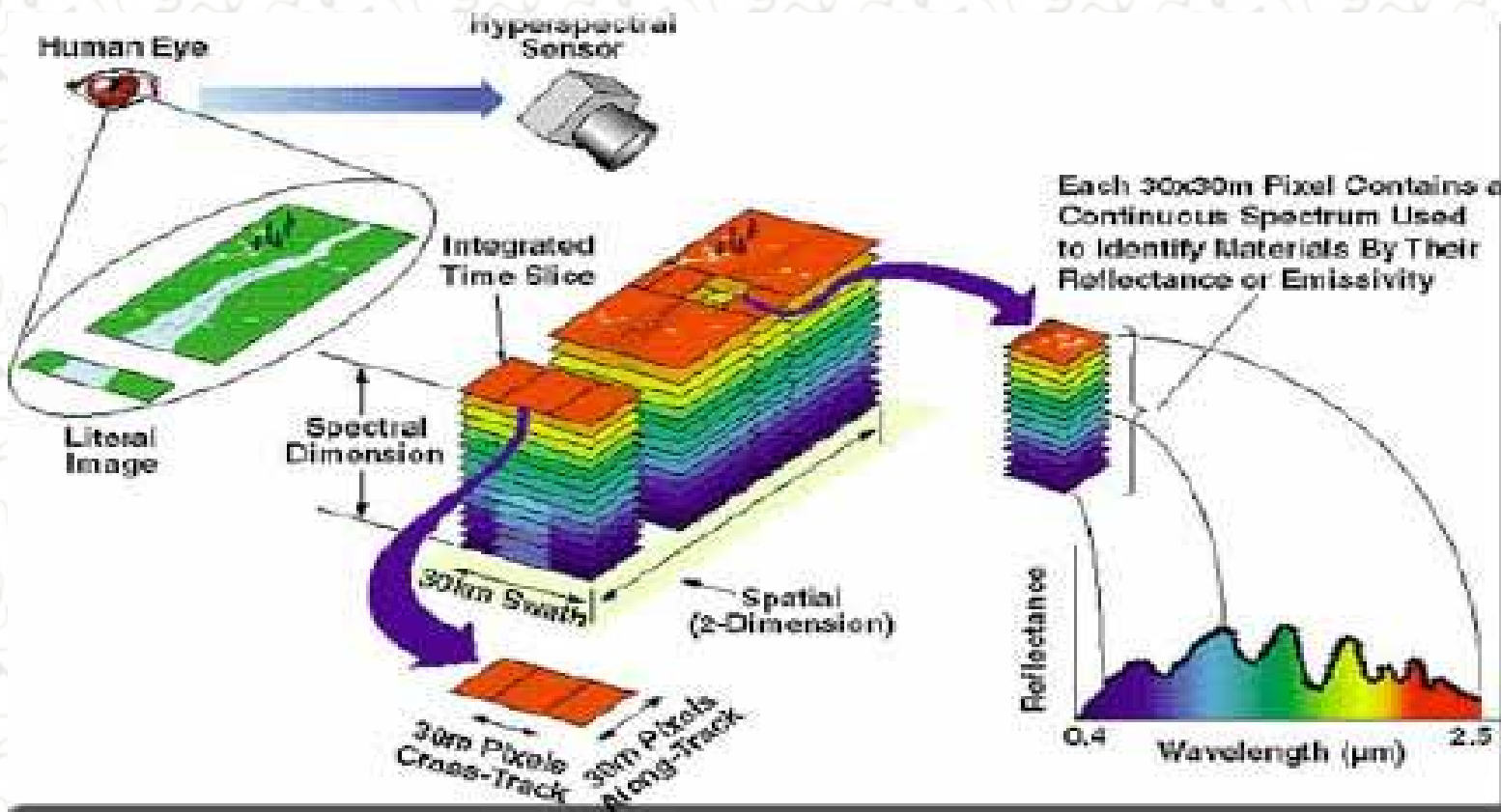
Device



Softwar

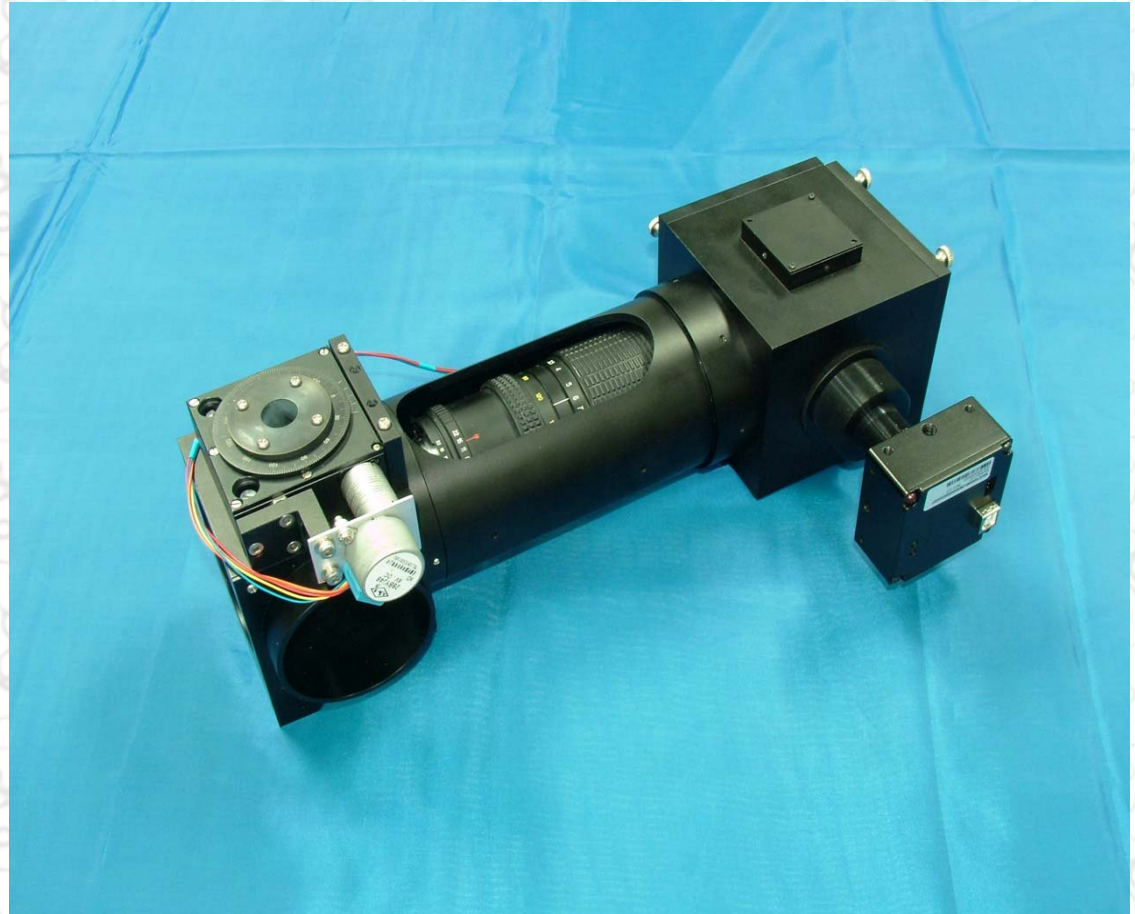


Spectral Imaging Technology





Hyper Spectral Imaging





Thanks