

No.7

# Seminar I on Agricultural Process Engineering 農産加工学演習 I

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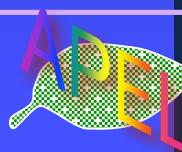
農学研究科 地域環境科学専攻  
近藤 直・清水 浩

# Practice

1. Color analysis
2. Size measurement
3. Shape analysis
4. Defect detection

# Color analysis

1. RGB value
2. Chromaticity  
 $(R/(R+G+B), G/(R+G+B))$
3. HSI (HSV, HLS)  
Hue, Saturation, Intensity (Value, Luminance)

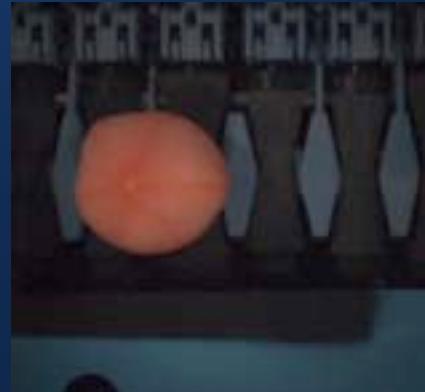
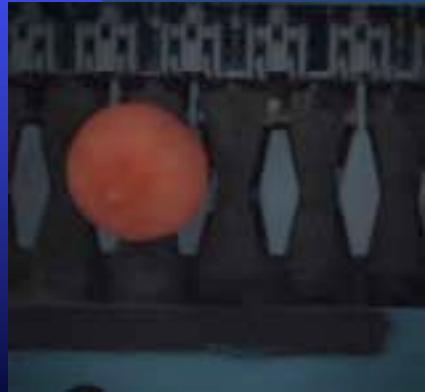


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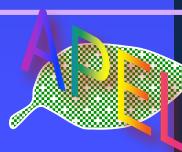


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# Objects for color



Choose 5 tomato fruits and make graphs.

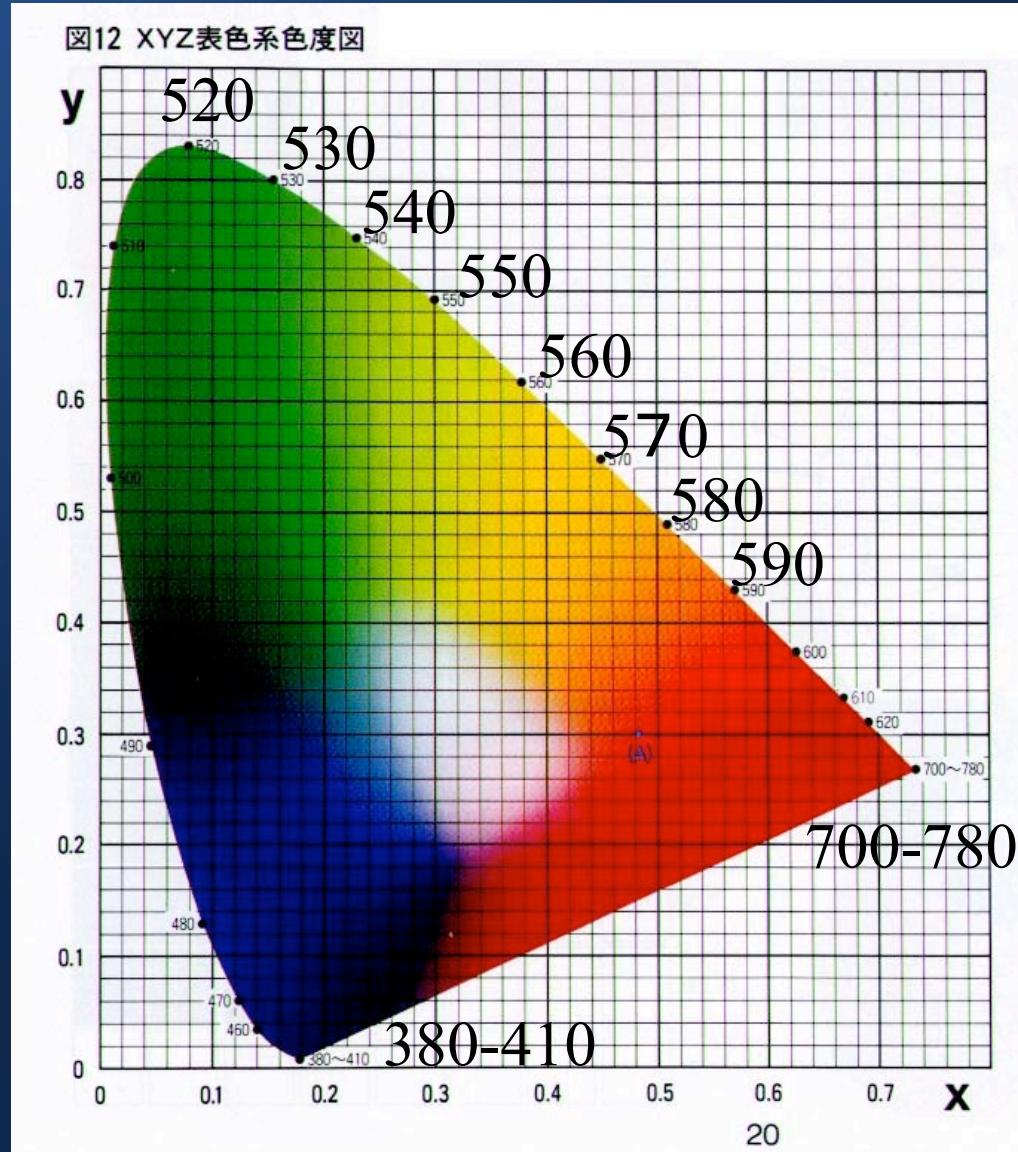


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# Chromaticity

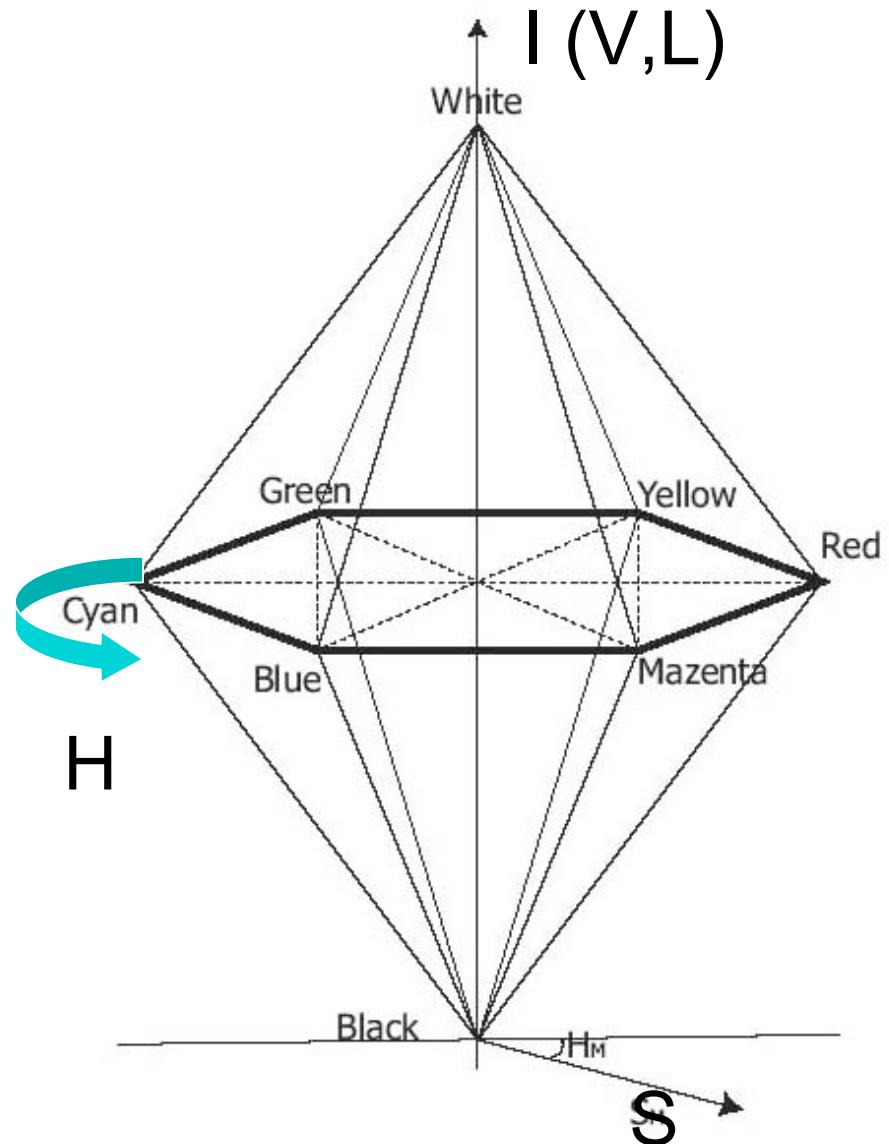
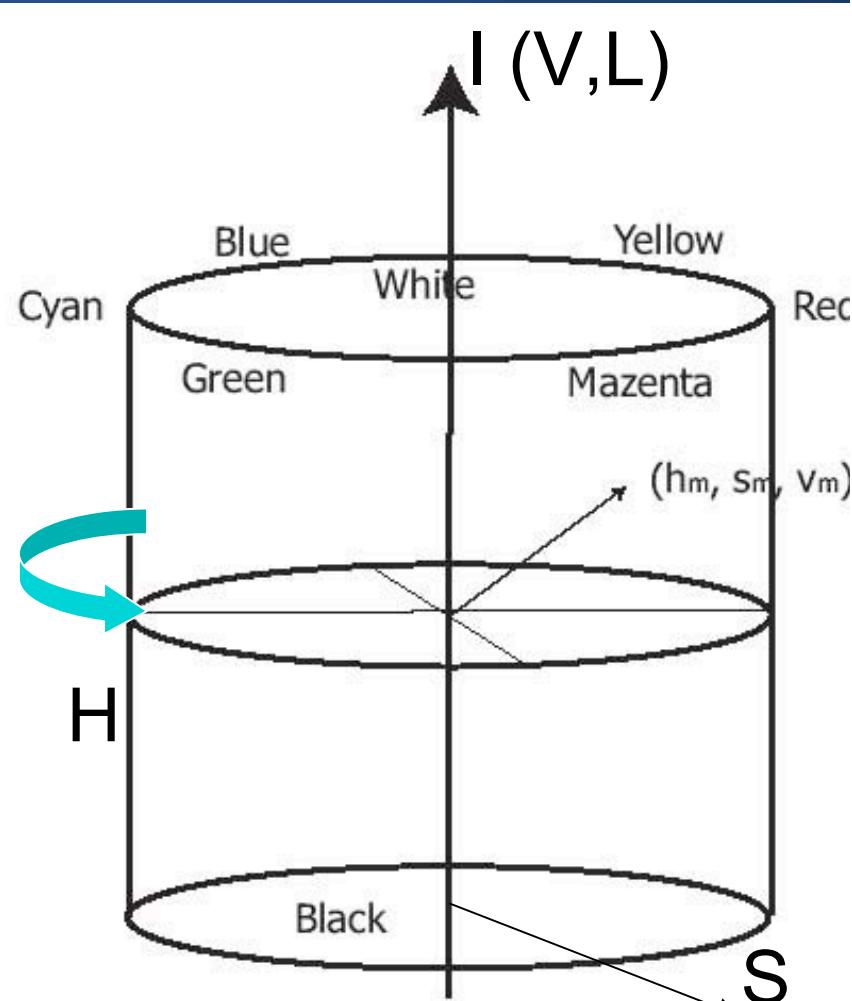


Simple calculation

$$X = R / (R + G + B)$$

$$Y = G / (R + G + B)$$

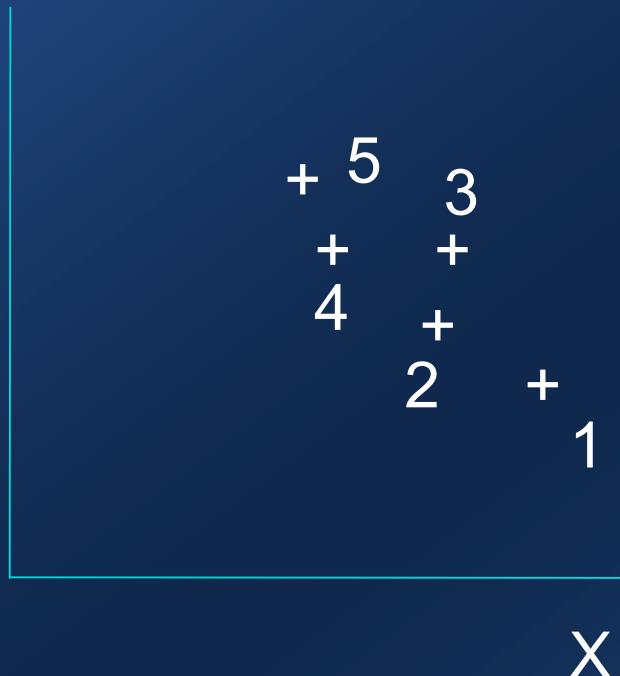
# HSI models



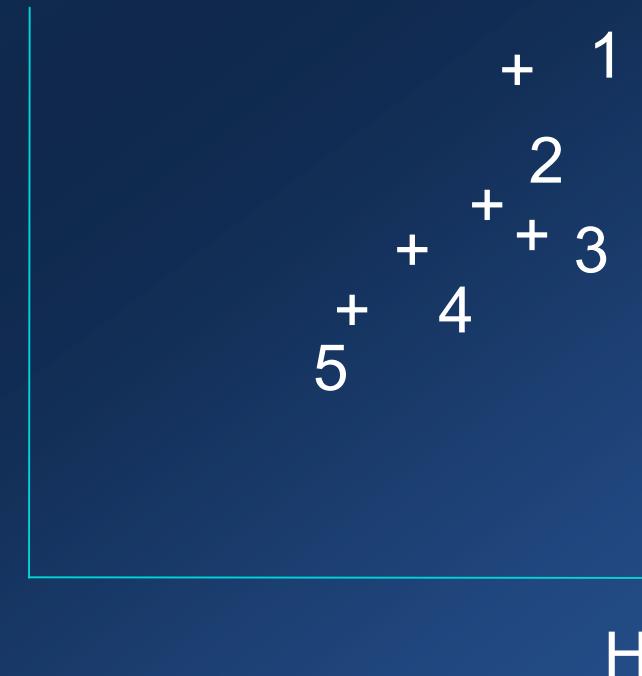
# Assignment: Make graphs of Chromaticity and HSI

+ Discussions

Y

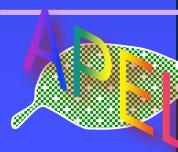


S



X

H



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