

No.9

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

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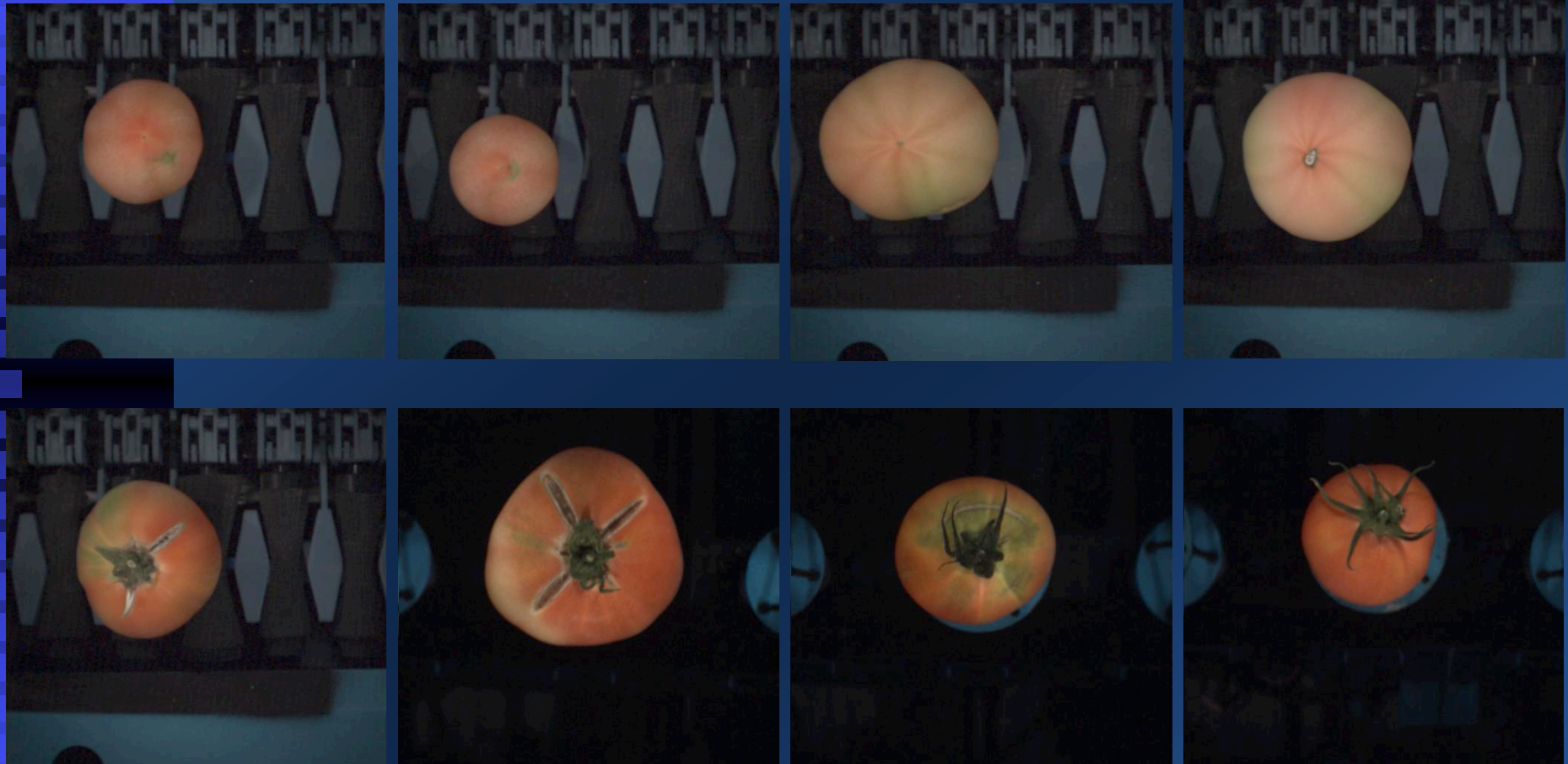
農学研究科 地域環境科学専攻

近藤 直・清水 浩

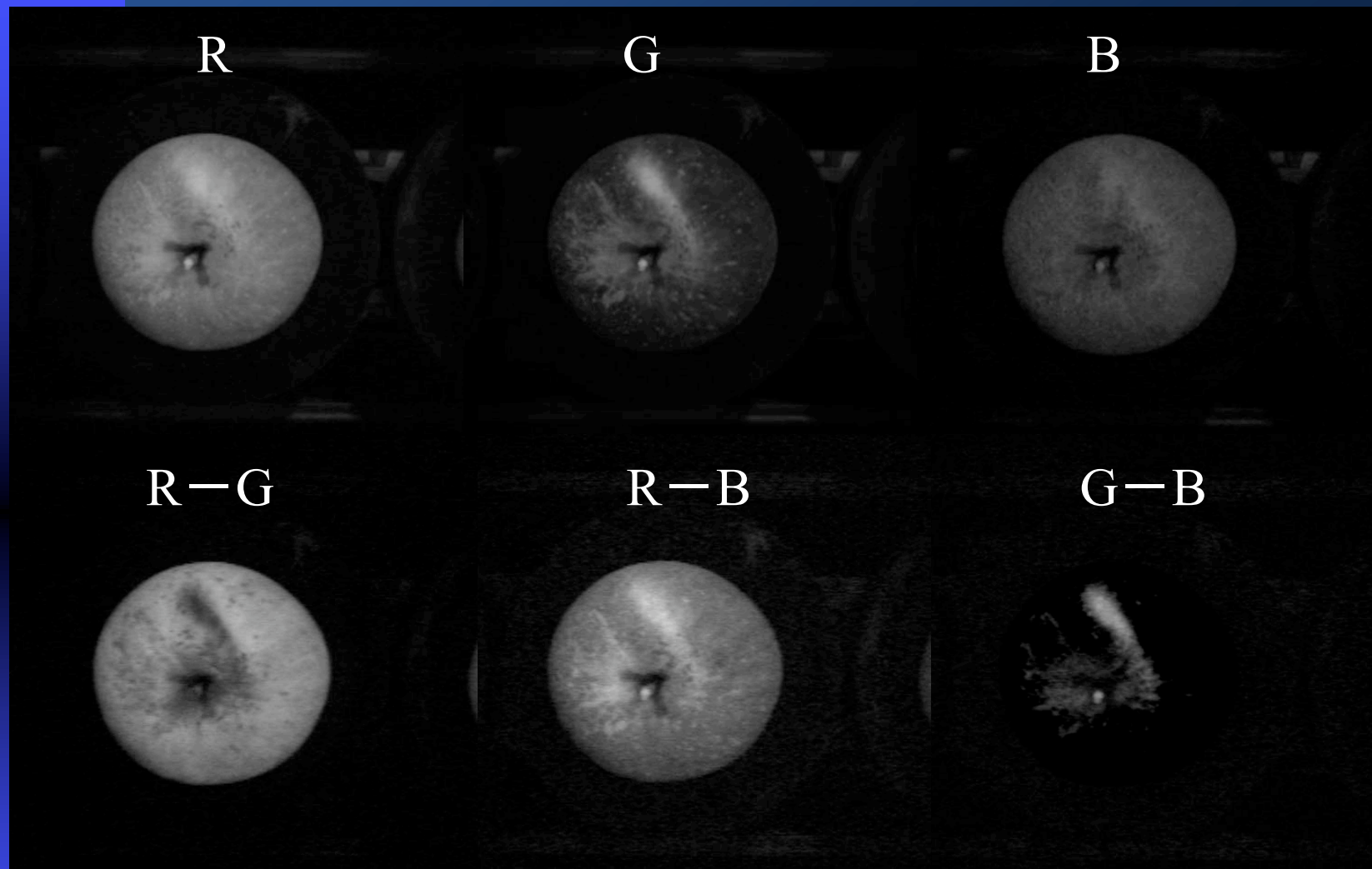
Practice

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

Objects for defects



Choose different three type defect tomato fruits and defect detection.



Calculation among image components

1	0	-1
1	0	-1
1	0	-1

Gradient

a	b
c	d

$$|d-a|+|b-c|$$

Roberts

a	b	c
d	e	f
g	h	i

$$|(c+2f+i)-(a+2d+g)|+|$$

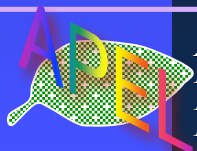
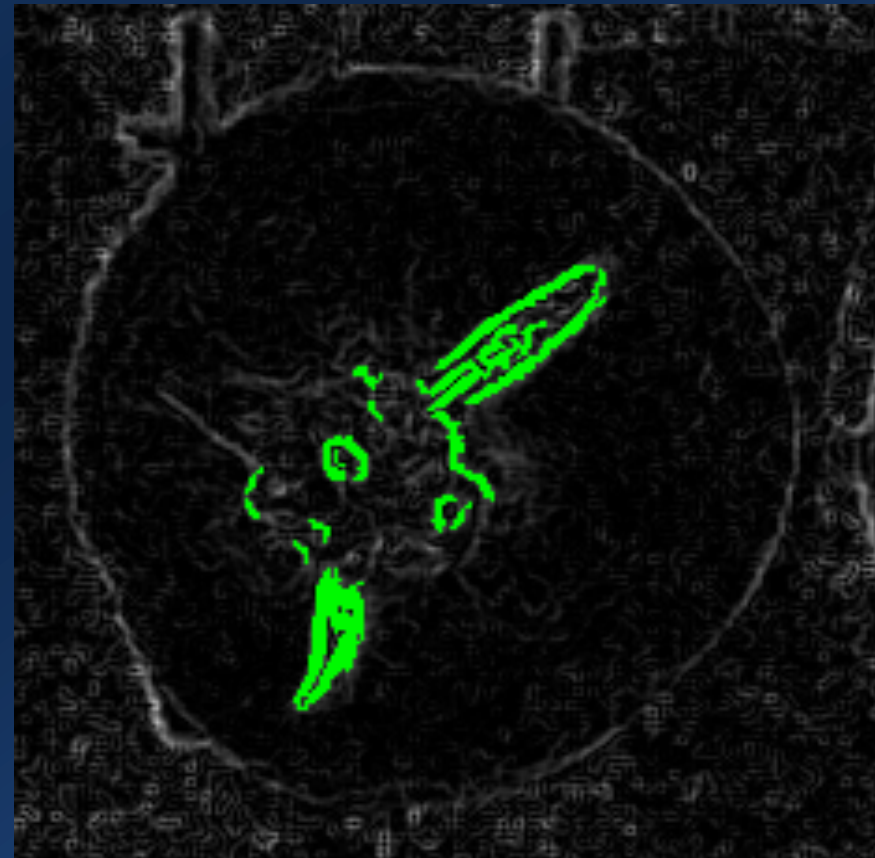
$$(g+2h+i)-(a+2b+c)|$$

Sobel

-1	-1	-1
-1	8	-1
-1	-1	-1

Laplacian

Assignment: Show defect detection result
(Binary image) with original image.



Agricultural
Process
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