

No.12

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

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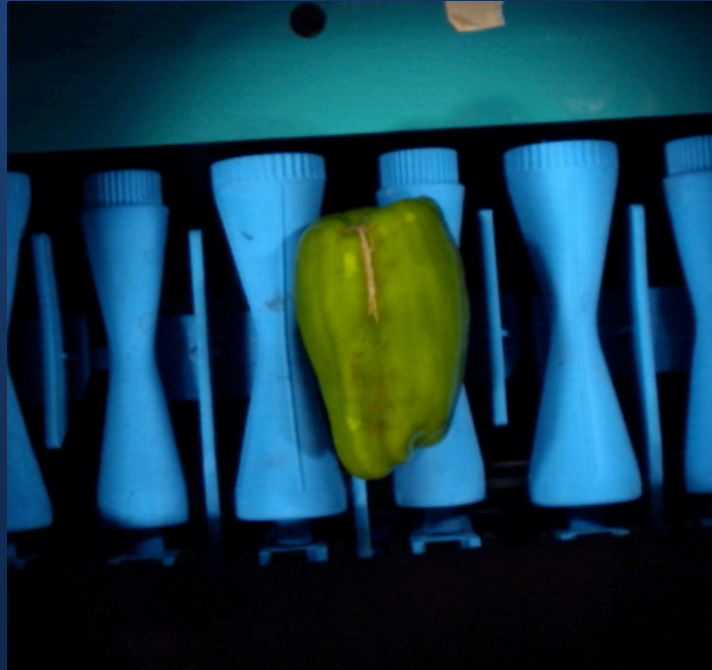
農学研究科 地域環境科学専攻

近藤 直・清水 浩

Practice

1. Color analysis
2. Size measurement
3. Shape analysis
4. Defect detection in tomato
5. Spot detection
6. Extraction of object
7. Defect detection in green pepper

Objects for defect detection



Brown defect on the surface is one of the major defect in green pepper.

Logical Operator

AND Operator

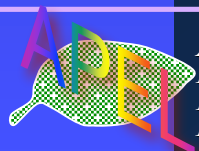
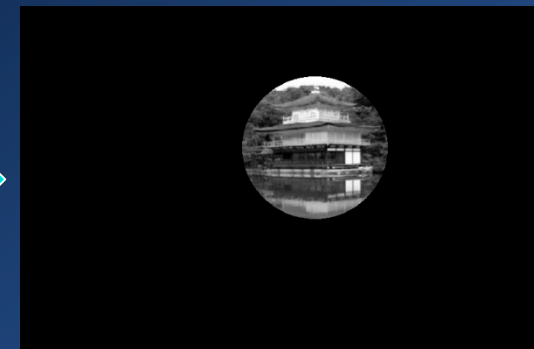
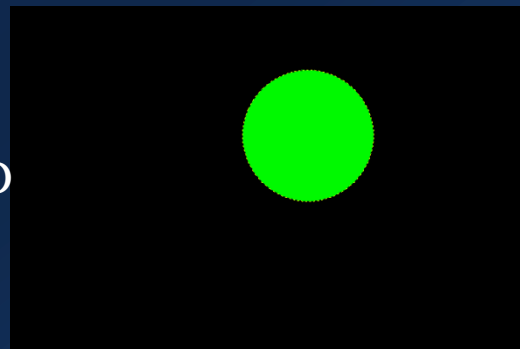
A	B	Q
0	0	0
0	1	0
1	0	0
1	1	1

OR Operator

A	B	Q
0	0	0
0	1	1
1	0	1
1	1	1



AND



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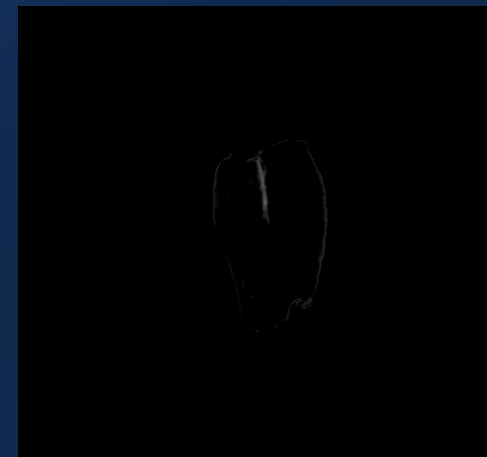
Separation of object from background



Creation of mask area



Extraction of object



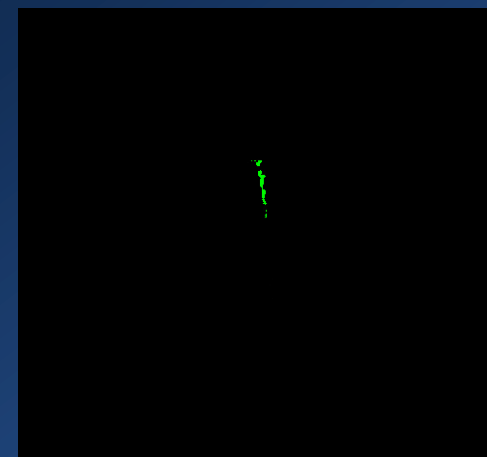
Blue plane



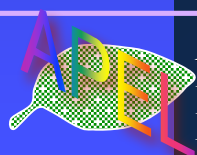
Red plane



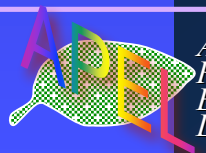
Green plane



Subtraction "R-G" and threshold



Assignment: Detect the brown crack in green pepper



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