

Conceptual Design for

Smart & Small Structures

C S Kim and J B Park

Design for Manufacturing

Project Objectives

Smart & Small Structures

What kinds of factors should be evaluated to improve the final products

Quality

How can we minimize the fabrication cost??
Control processing Parameters?? or what??

Efficiency

What kinds of structures can be fabricated or developed??

Design

Structure

- Surface roughness
- Sidewall angle
- Bottom shape
- High aspect ratio

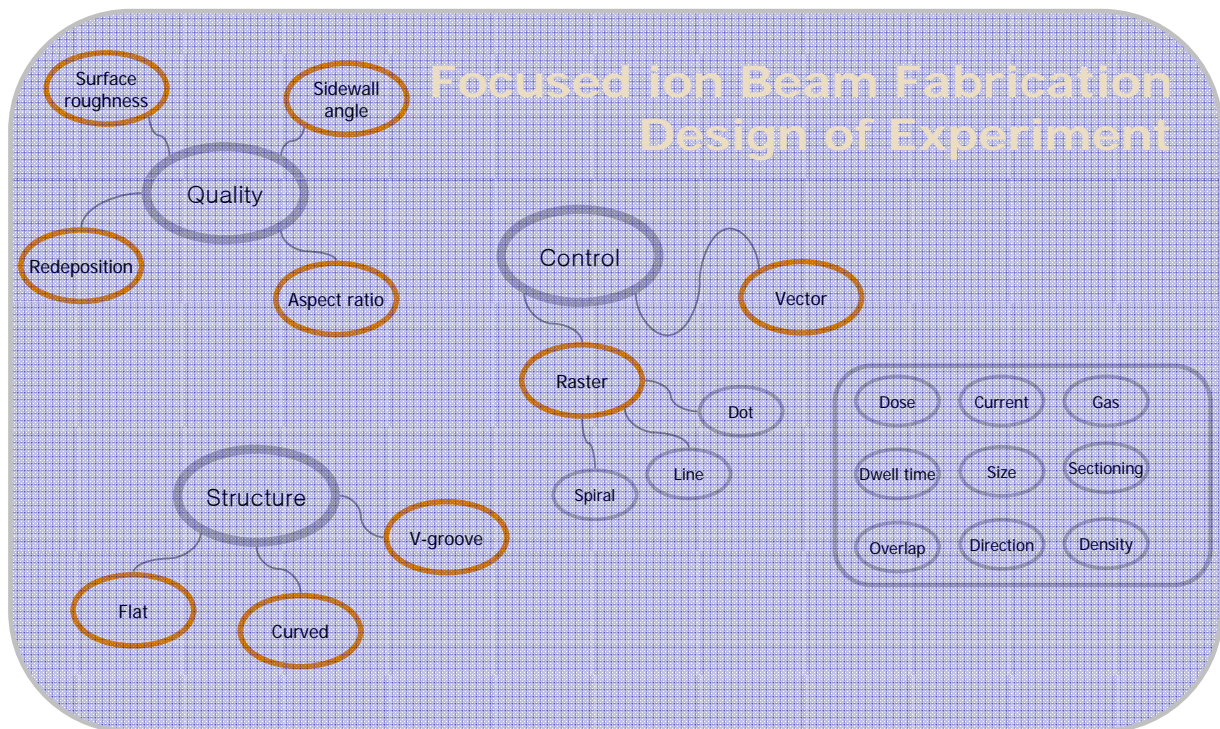
Cost

- Fabrication time
- Production Rate

Design

- Flat structure
- Curved structure

Brain storming



School of Mechanical & Aerospace Engineering Seoul National University

Project plan

- ❑ Mission statement & Brain storming
- ❑ Conceptual design
- ❑ Pre-study
- ❑ Detail design
- ❑ Fabrication
- ❑ Analysis
- ❑ Evaluation
- ❑ Documentation

School of Mechanical & Aerospace Engineering Seoul National University

Schedule boards

Plan		Week (20 March 2006 ~ Mid June 2006)														
		1	2	3	4	5	6	7	8	9	10	11	12	13		
Mission statement and Brain storming		█	█													
Conceptual Design			█	█	█											
Pre-study	Python			█	█	█	█									
	Design of Experiment			█	█	█	█									
Detail design	Parameter					█	█	█								
	Material					█	█	█								
	Shape					█	█	█								
Fabrication								█	█	█	█	█	█			
Analysis								█	█	█	█	█	█			
Evaluation								█	█	█	█	█	█	█		
Documentation														█	█	