

# Patterning, Polymer Deposition

3.044 May 2, 2005

## Mechanics:

- PS 8 due Friday
- SUMS Lobster Bake today 5-7 PM---location?

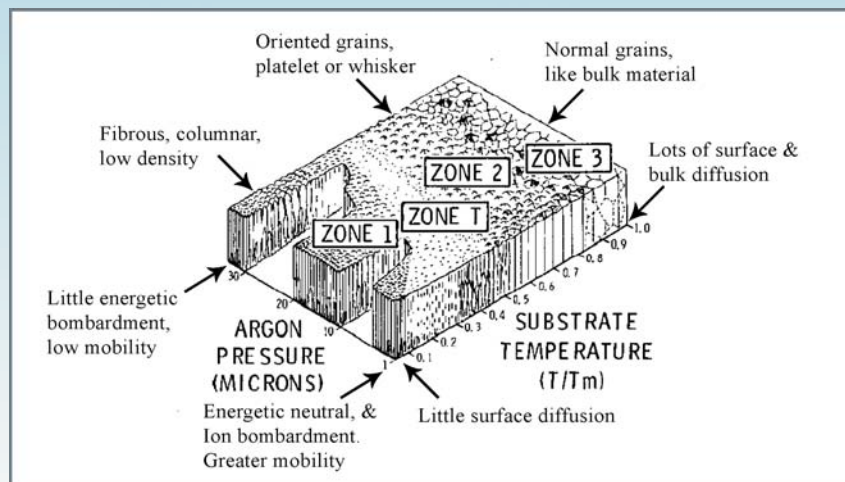
## Today's lecture:

- Film structure formation detail
- Masking/patterning thin films
- Vapor deposition of polymers

## Structure Zone Model

Thornton, 1977; competing effects:

- Quickly arriving atoms
- Surface diffusion
- Shadowing
- Bulk diffusion
- Crystal faceting
- Ion bombardment

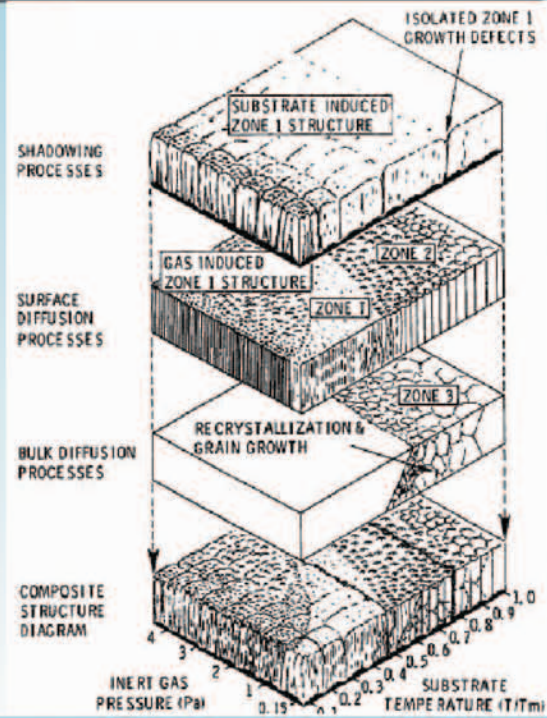


Courtesy of Annual Reviews, Inc. Used with permission. Labels added by MIT OCW.  
Source: Fig 1b from Thornton, J. "High Rate Thick Film Growth." *Ann Rev Mater Sci* 7 (1977): 239-60.

# Structure Zone Model

More detail:  
 Ohring 1992  
 "The Materials Science  
 of Thin Films"

Courtesy of Annual Reviews, Inc. Used with permission.  
 Source: Fig 7 from Thornton, J. "High Rate Thick Film Growth."  
 Ann Rev Mater Sci 7 (1977): 239-60.



# Structures

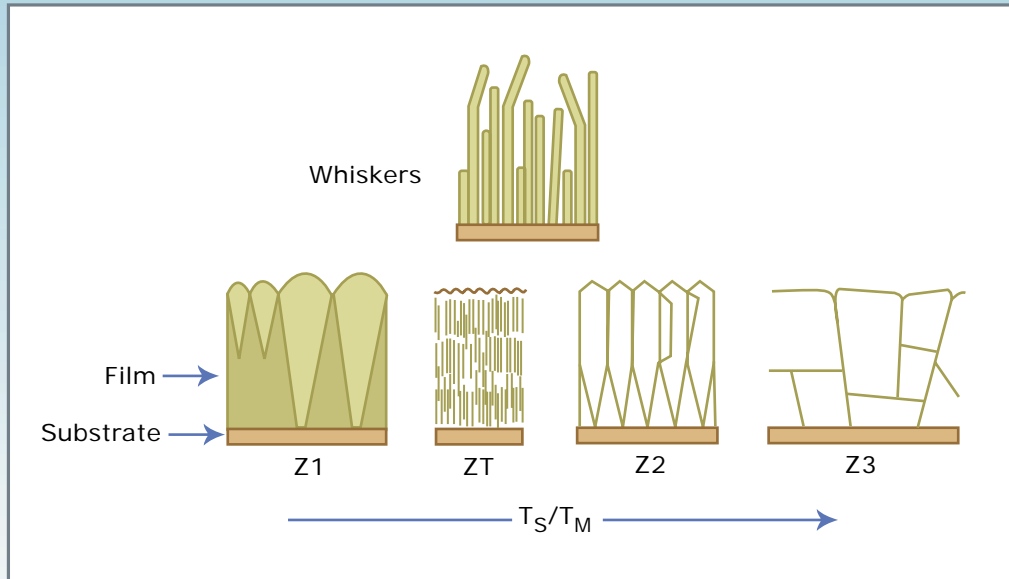


Figure by MIT OCW.