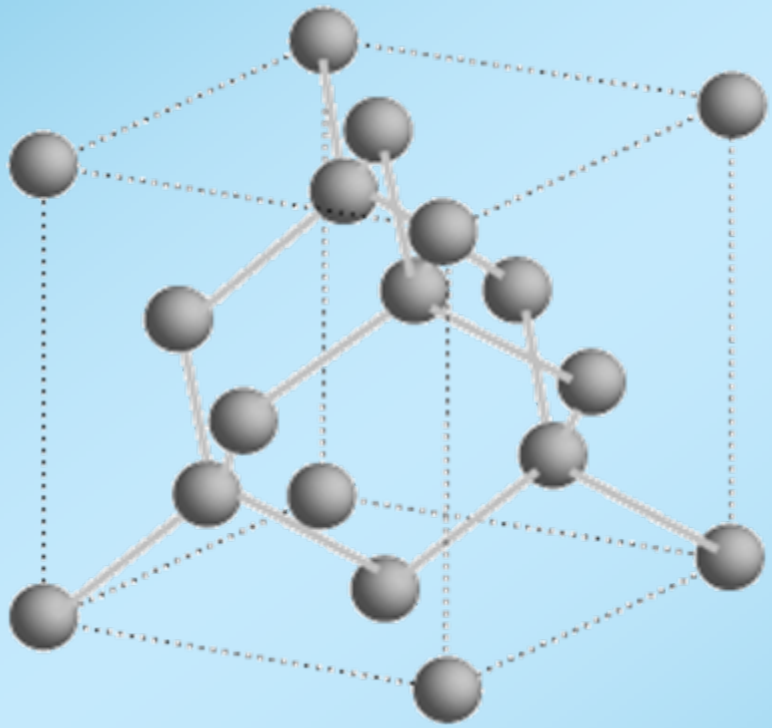
Różne technologie hodowli kryształów wykorzystywanych w elektronice

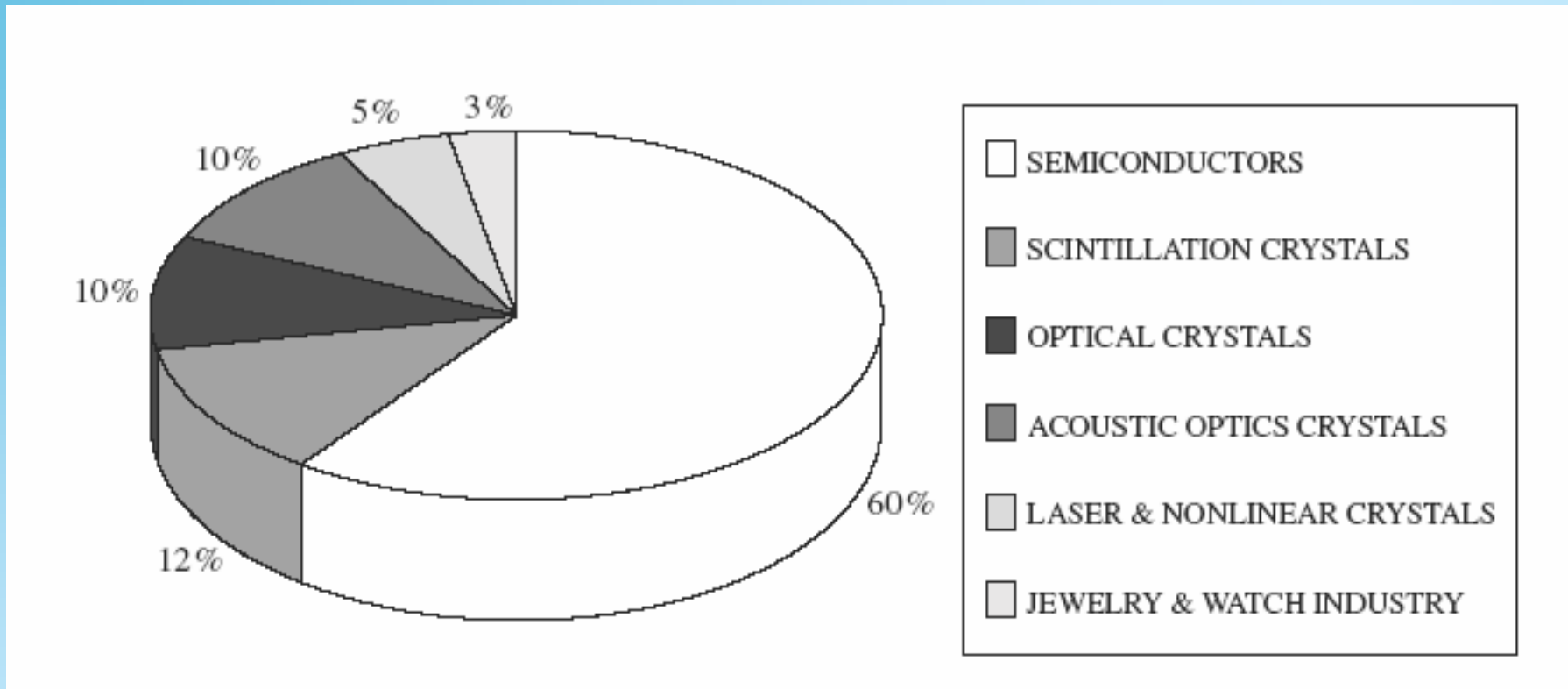


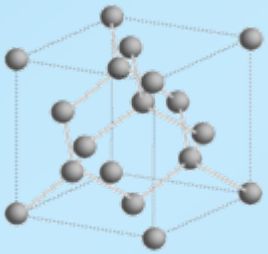
Adam Gajdziński

FiTKE

Gdańsk 13.10.2005

Dla czego kryształy wykorzystywane w elektronice?





Kryształy Wykorzystywane w Elektronice

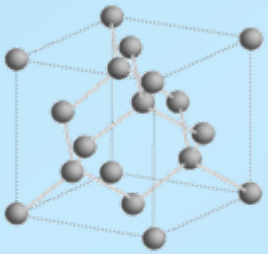
KRYSZTAŁY

Hodowane objetosciowo

[*Bulk Growth*]

Hodowane powierzchniowo

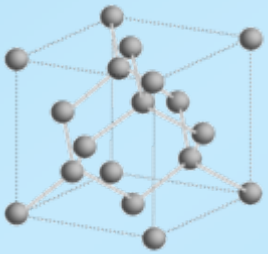
[*Epitaxy*]



Metody Wytwarzania Kryształów (1)

Metody hodowli objętościowej

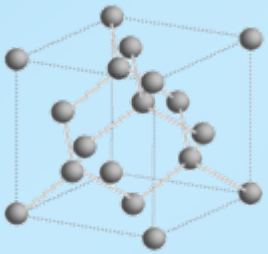
	Si	GaAs	InP	Ge	GeSi	CdTe, CdZnTe	HgCdTe, HgMnTe	BSO, BGO	LiNO3	SiC	CaF2	ZnSe	YVO4
Czochralski	■			■					■				■
Liquid Encapsulated Czochralski		■	■										
Vertical Bridgman		■	■	■	■	■	■	■			■		
Magnetic-Vertical Bridgman		■	■	■	■		■						
Vertical Gradient Freeze		■	■		■	■							
Zone Melting		■											
Horizontal Bridgman						■							
Float Zone	■												
Physical Vapor Transport										■		■	
Solution Growth (THM)						■							



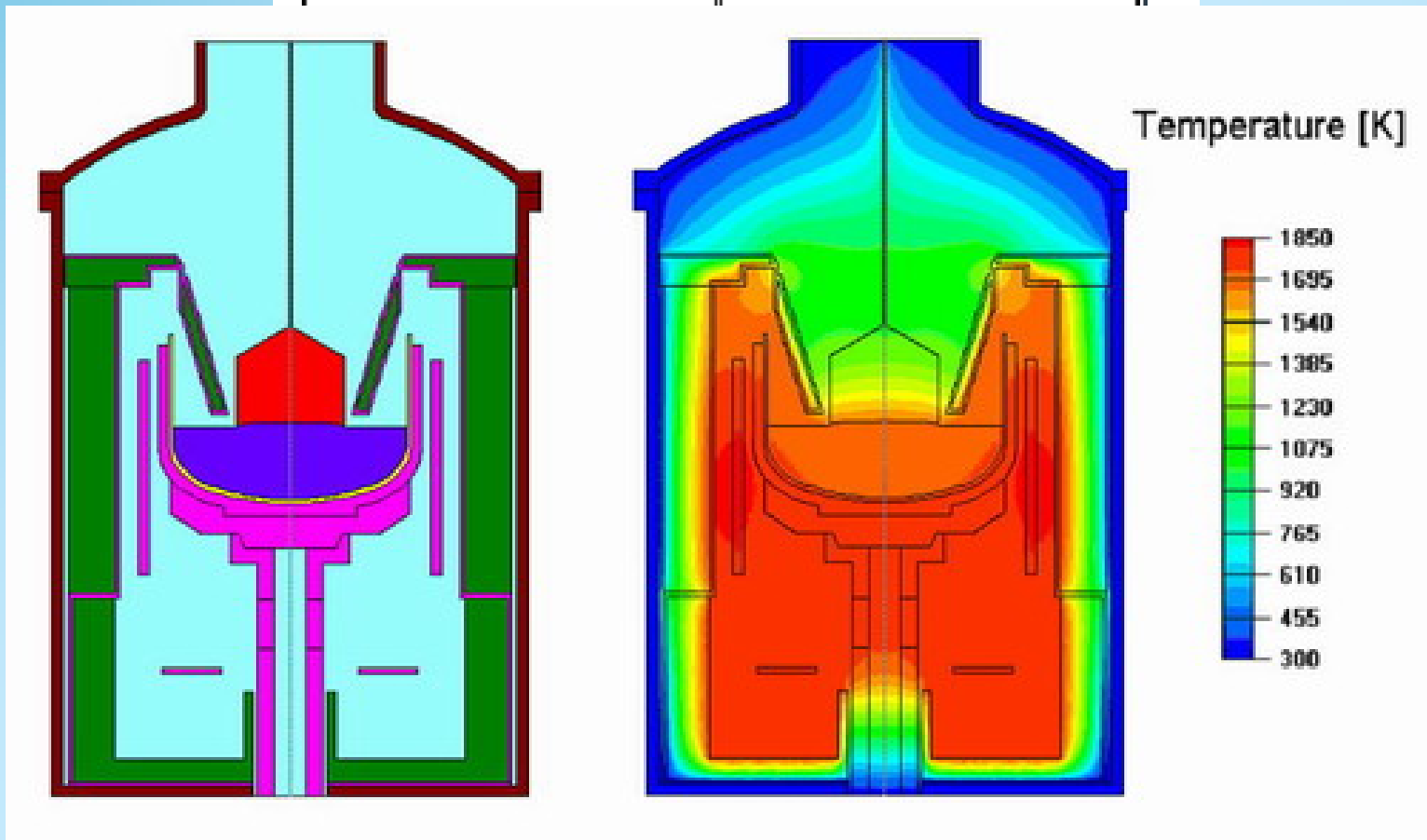
Metody Wytwarzania Kryształów (2)

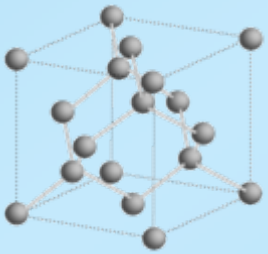
Metody hodowli powierzchniowej

	HgCdTe	Si	III-V	GaN	SiC
Liquid Phase Epitaxy	■				
Chemical Vapor Deposition		■			
MOCVD Single Wafer			■	■	■
MOCVD Planetary Reactor			■	■	
High Temperature CVD					■

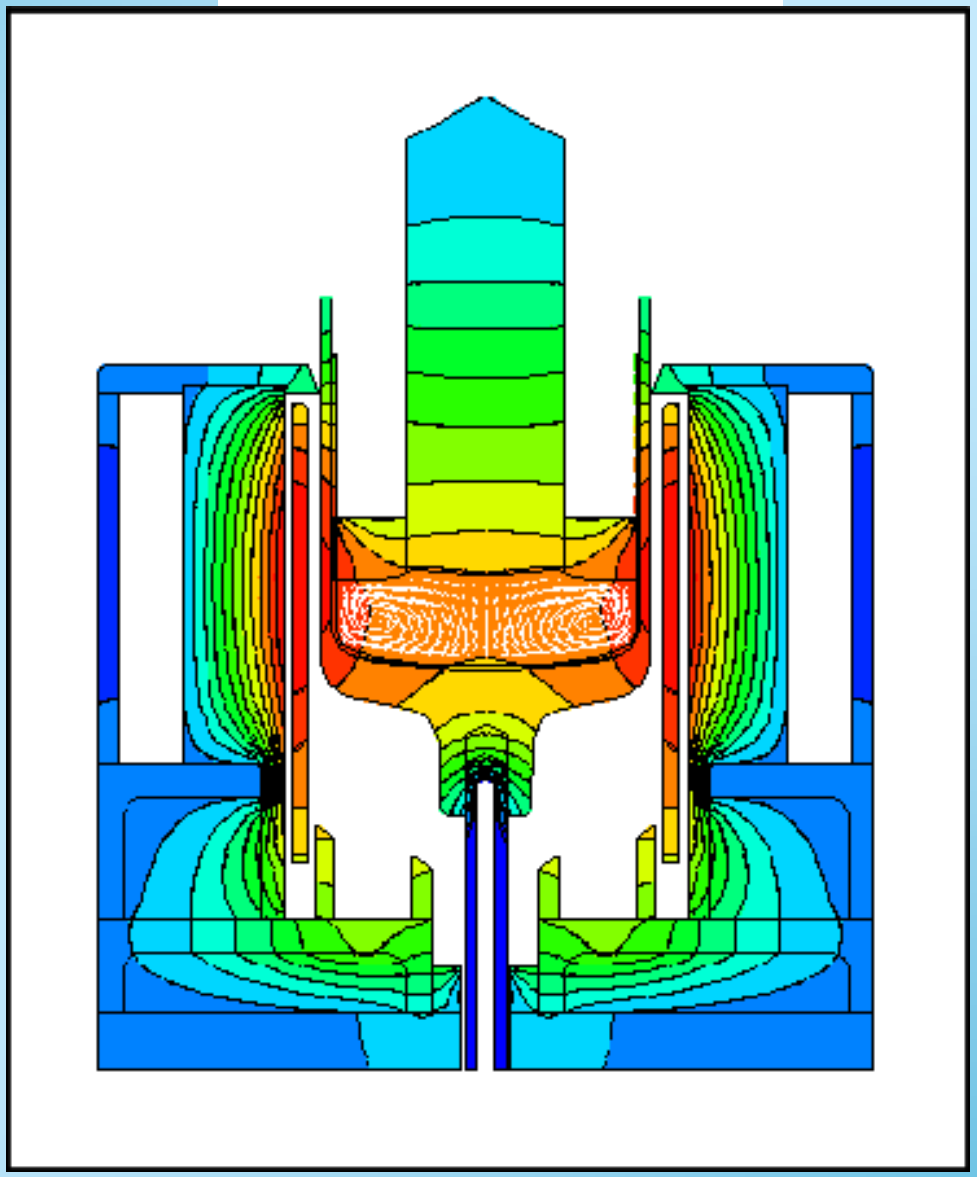


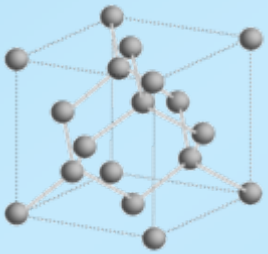
Metoda Czochralski'ego





Liquid Encapsulated Czochralski





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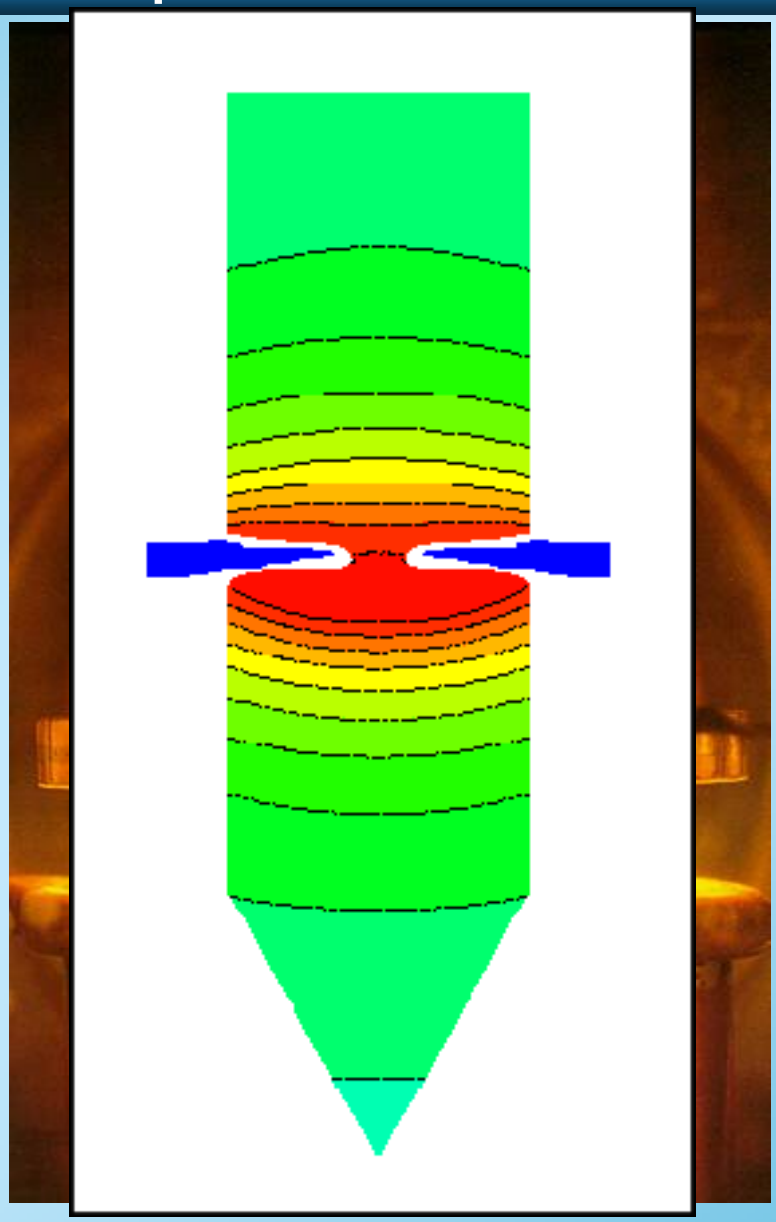
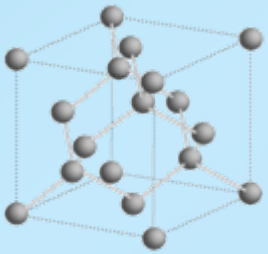
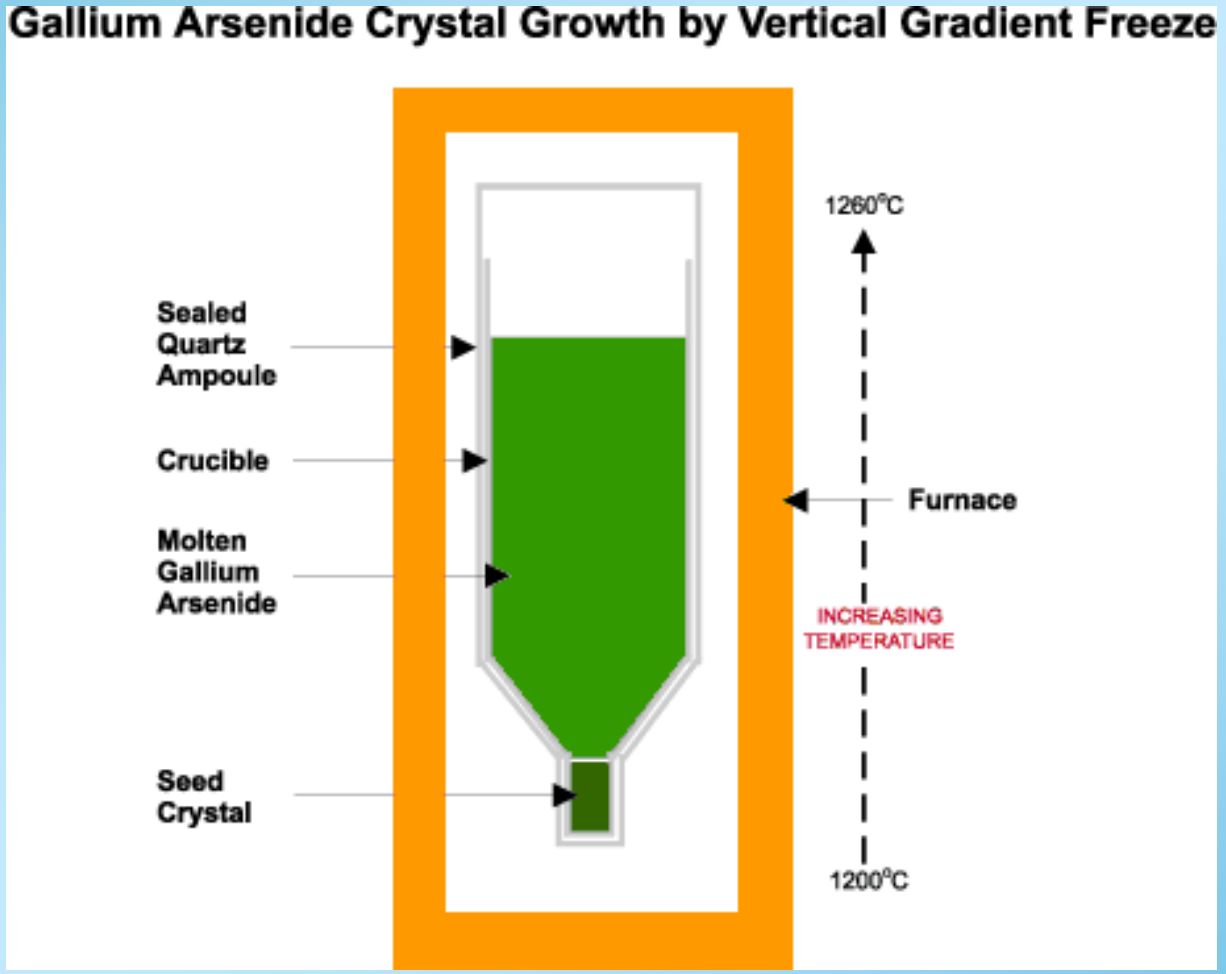
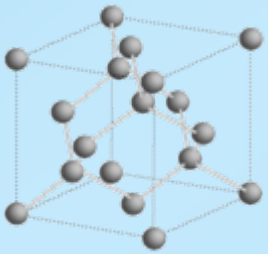


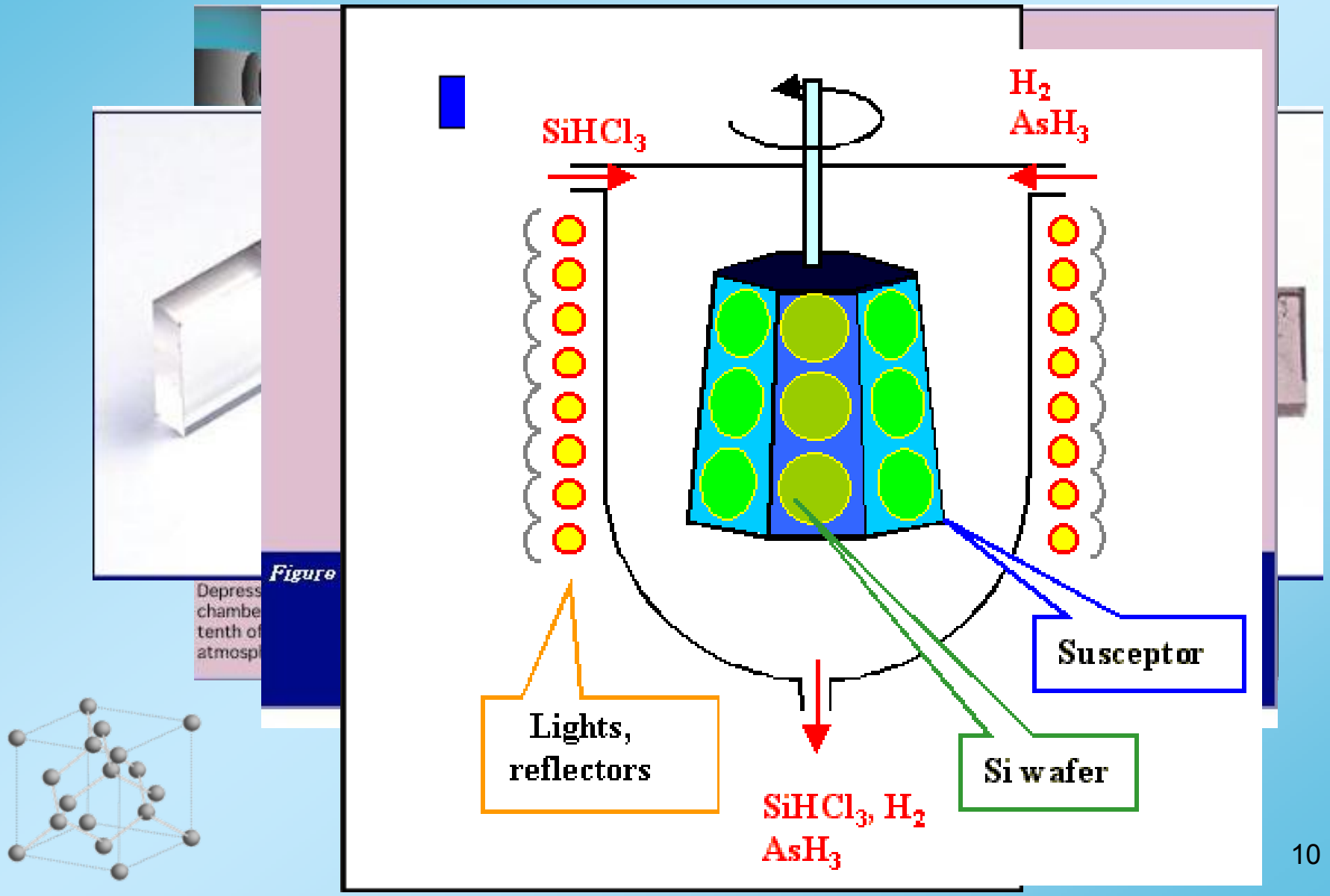


Vertical Gradient Freeze





Vertical Gradient Freeze



Dziękuję za uwagę