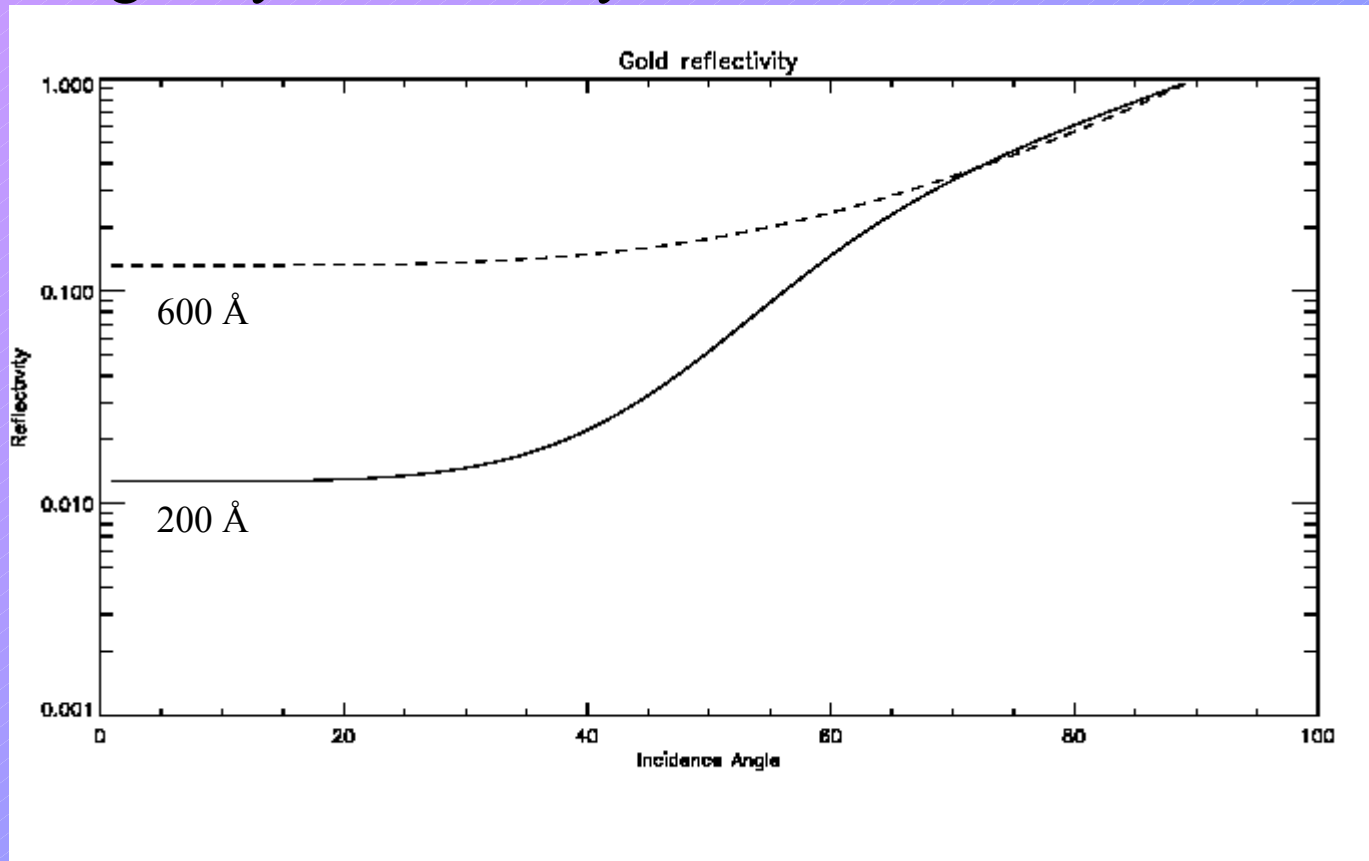


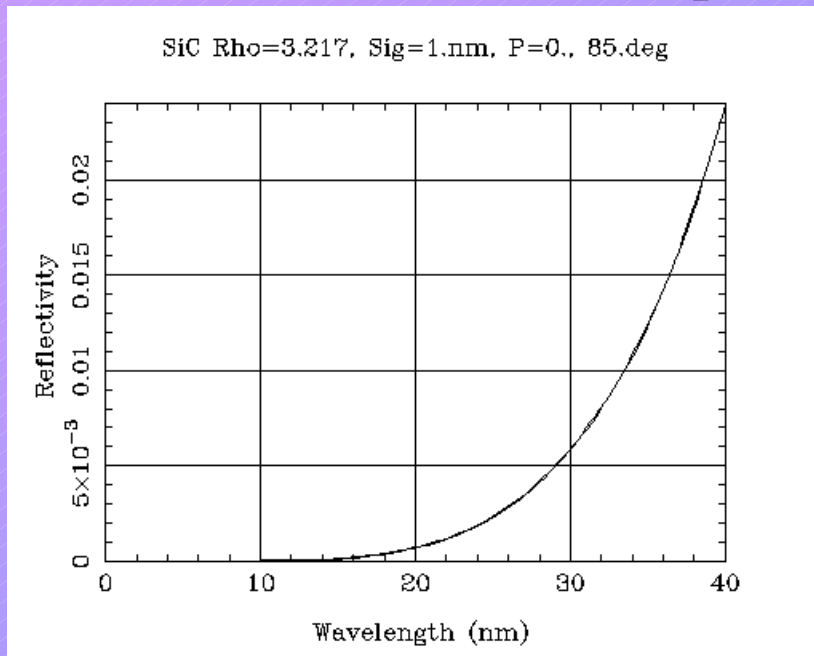
# Solar Orbiter Multilayer Considerations - 1

## Single layer reflectivity

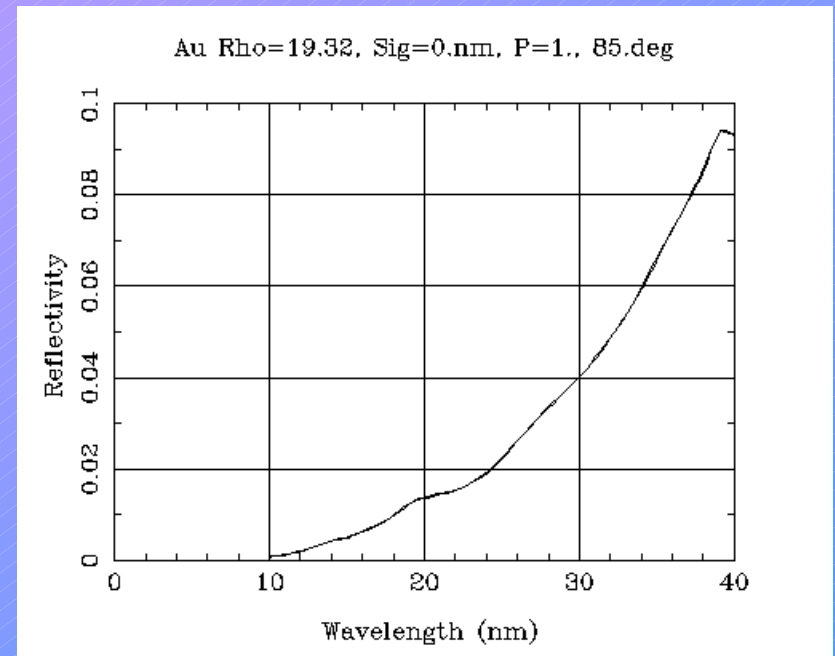


Reflectivity of a gold layer (2000Å thick) on silicon for 200Å and 600Å unpolarised radiation

# Single layer reflectivity Silicon Carbide compared with Gold



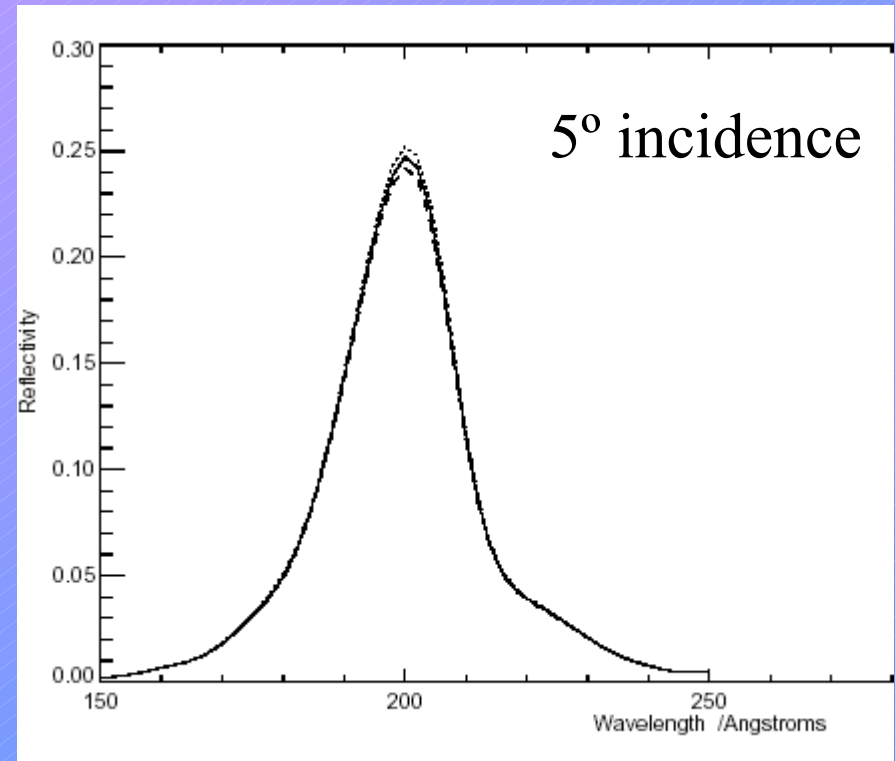
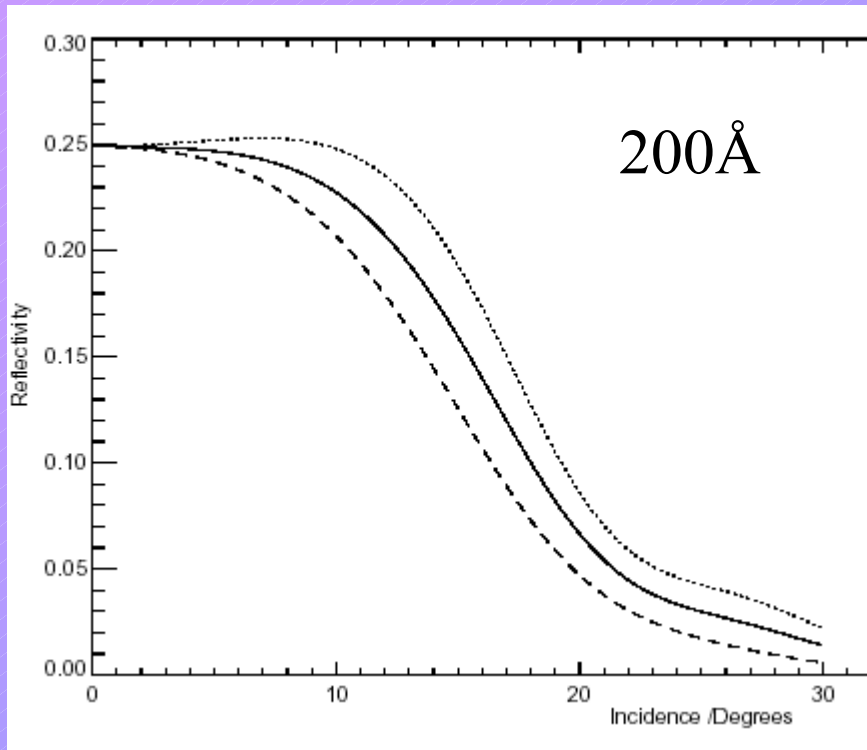
Silicon Carbide Mirror  
5° Incidence



Gold Mirror  
5° Incidence

## Solar Orbiter Multilayer Considerations - 2

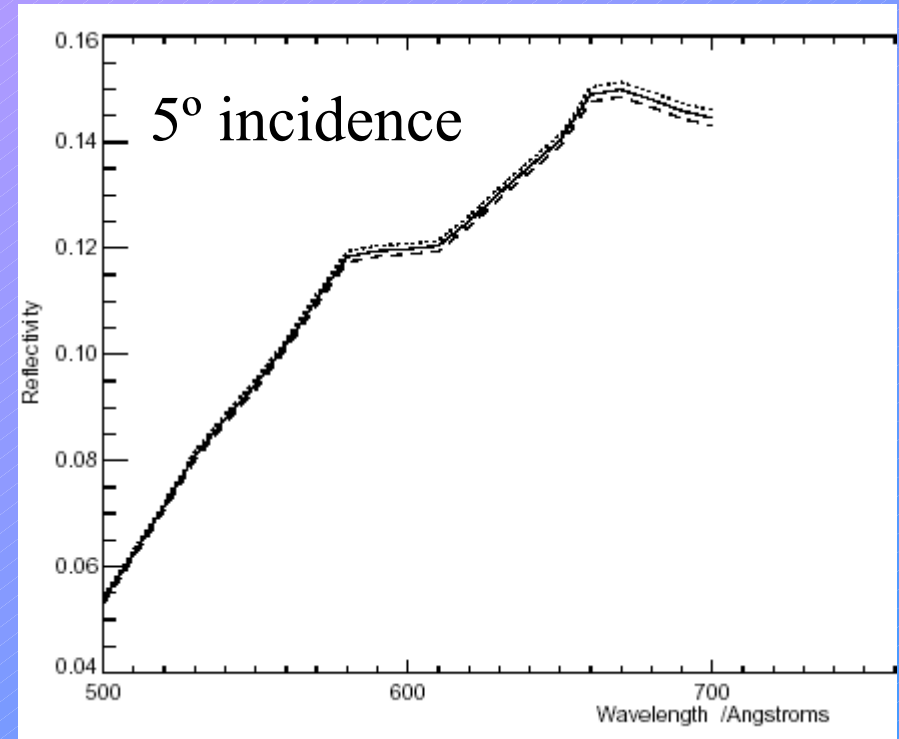
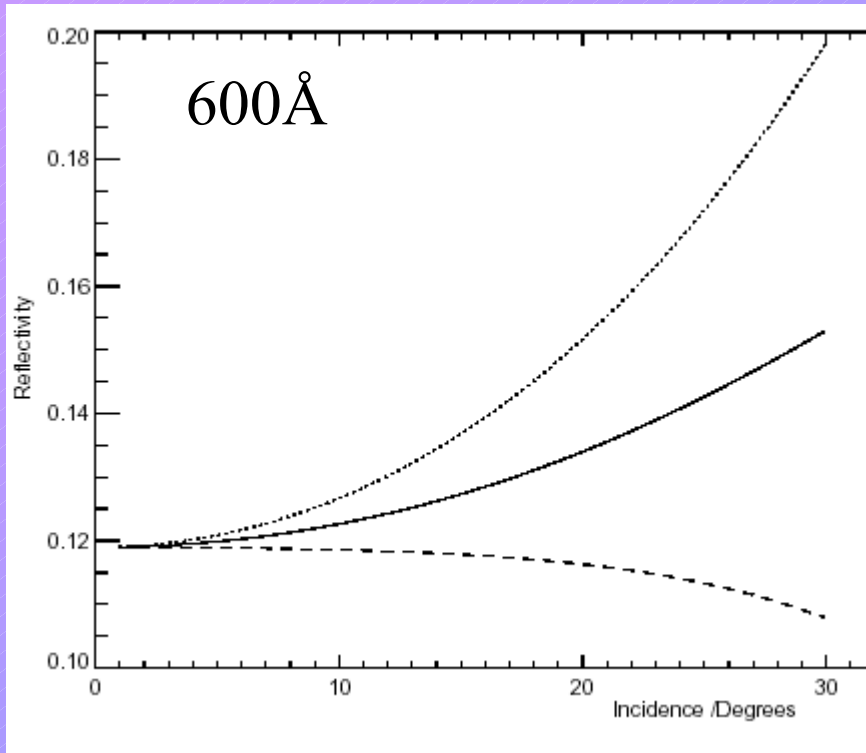
Use Multilayer to enhance reflectivity at short wavelength...



Optimised Pt/Si Multilayer reflectivity  
( $d = 105\text{Å}$ ,  $\Gamma = 0.38$ )

# Solar Orbiter Multilayer Considerations - 3

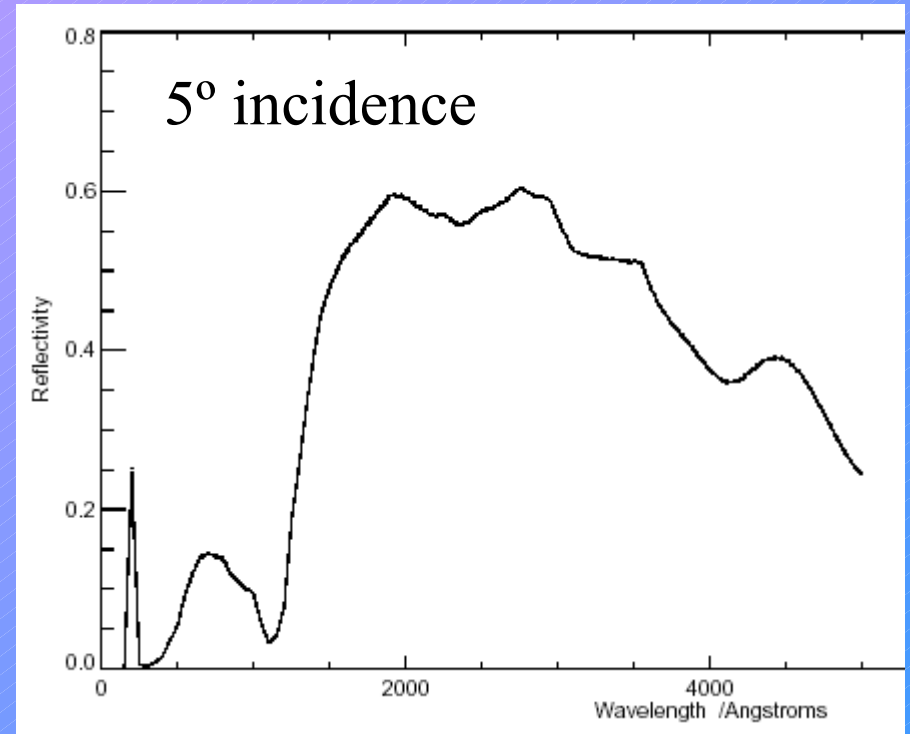
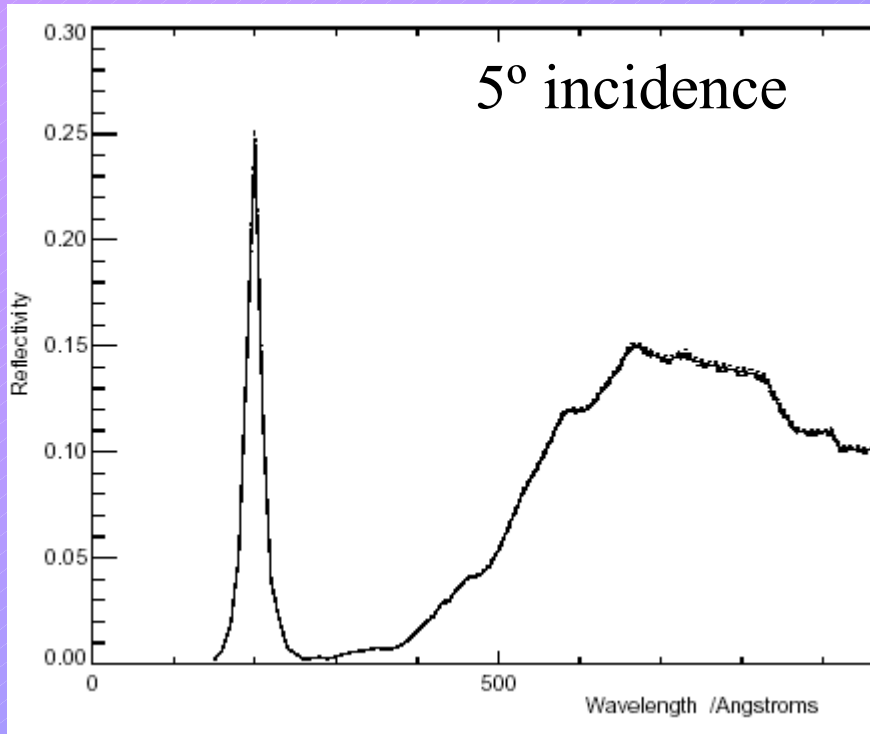
...and maintain reflectivity at longer wavelength



Pt/Si Multilayer reflectivity

## Solar Orbiter Multilayer Considerations - 4

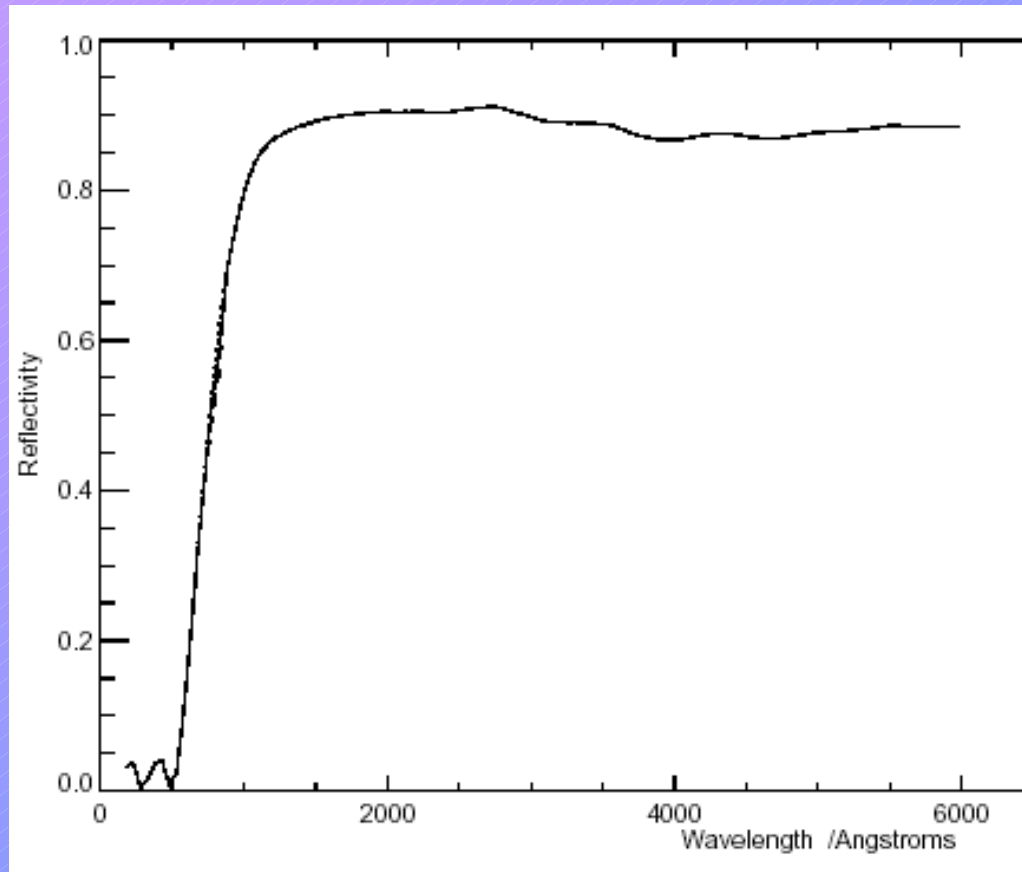
Reduced reflectivity at visible (and IR) wavelength  
if required for thermal reasons



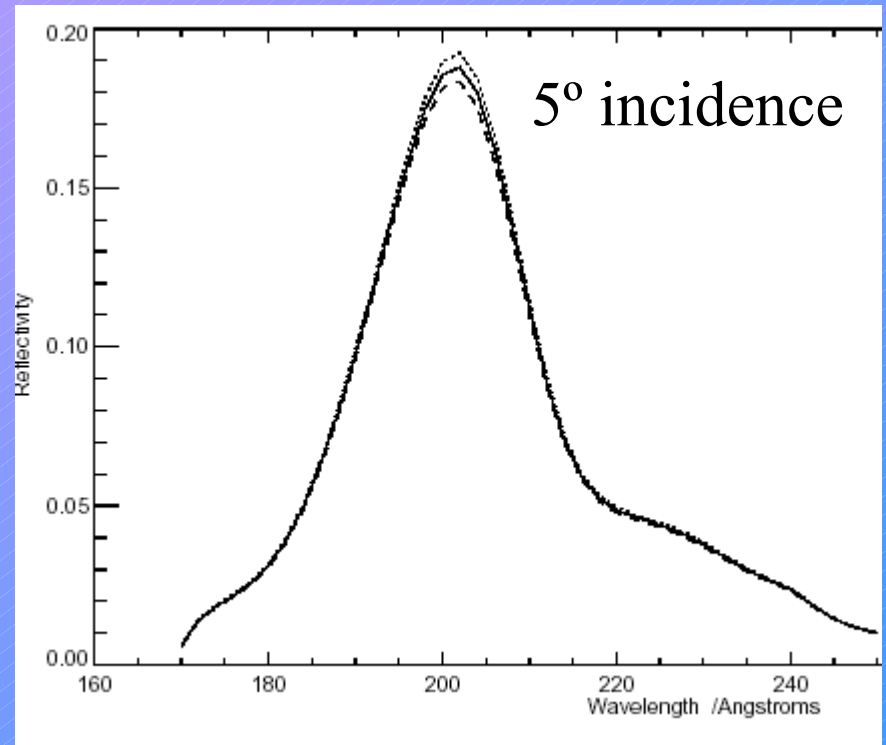
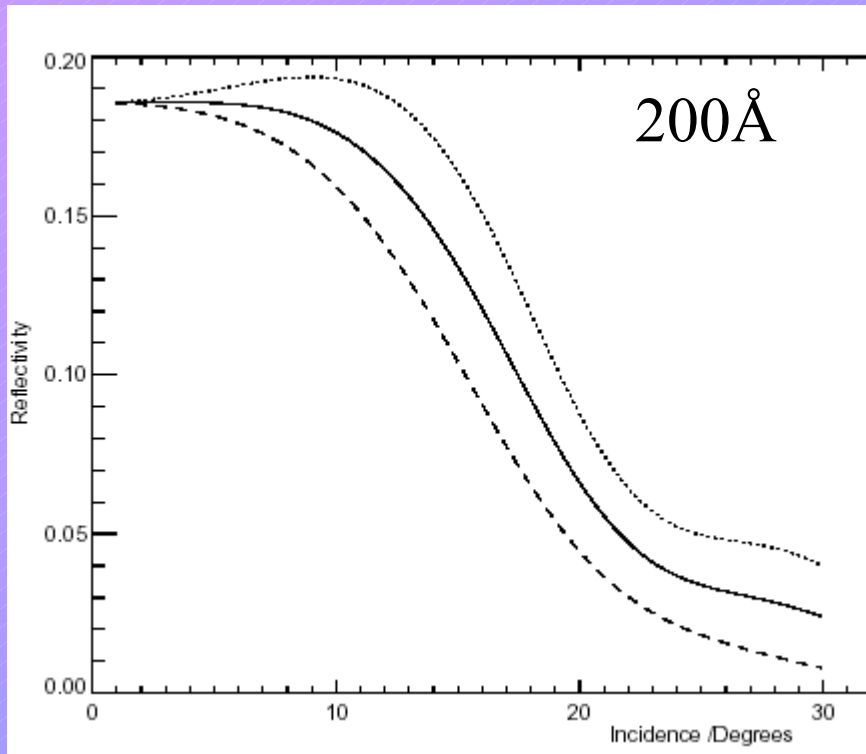
Pt/Si Multilayer reflectivity

## Solar Orbiter Multilayer Considerations - 5

Add Aluminum outer layer to increase reflectivity at visible (and IR) wavelengths ....



... Without dramatically changing the short wavelength reflectivity



Optimised Pt/Si Multilayer reflectivity  
( $d = 105\text{\AA}$ ,  $\Gamma = 0.38$ ) - plus 200Å Aluminium