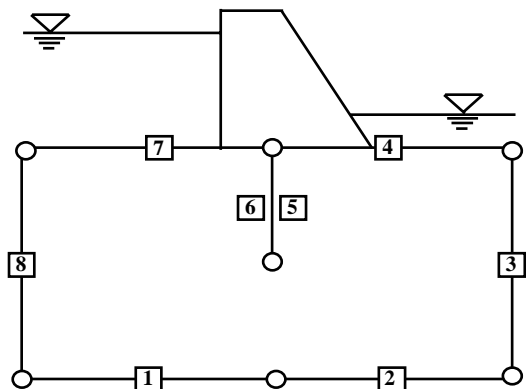
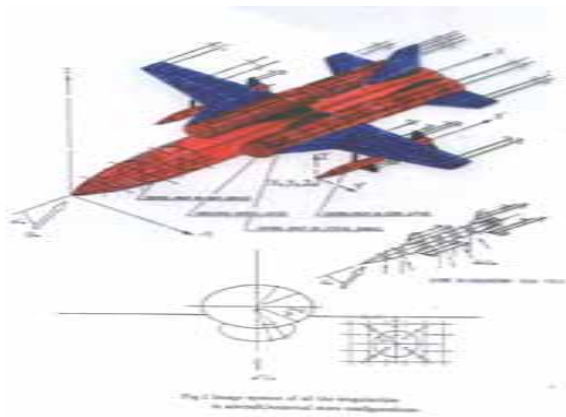


首創對偶邊界元素法，成功解決含退化邊界之工程問題分析，目前已被國外發展套裝軟體，並銷售 世界五十餘國。應用如下：



含擋水牆之滲流問題

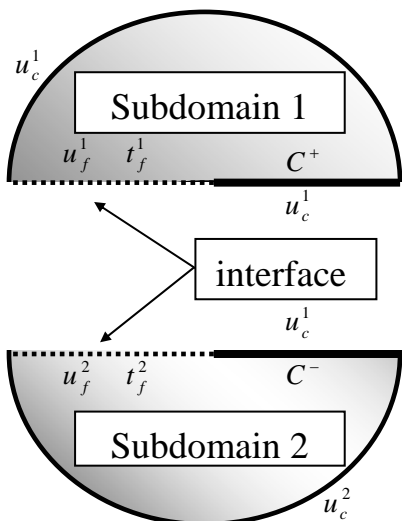


薄翼之空氣動力學問題

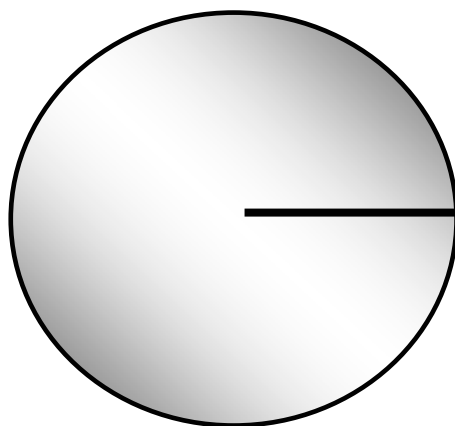


飛彈之熱應力分析

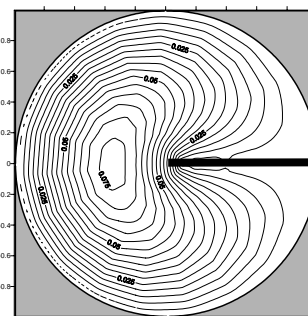
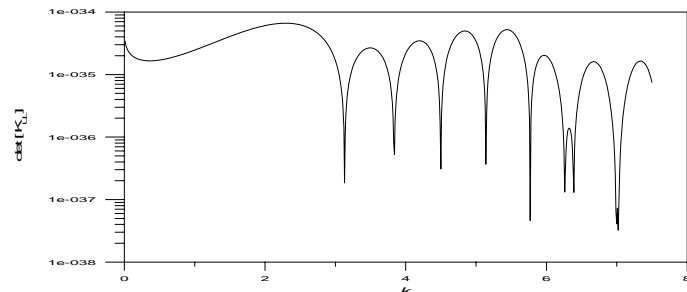
含束制條之薄膜問題分析



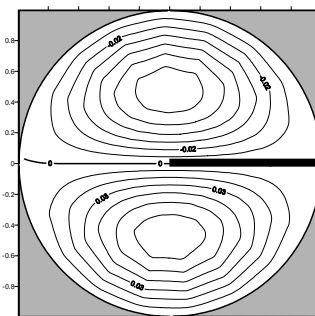
傳統邊界元素法



對偶邊界元素法

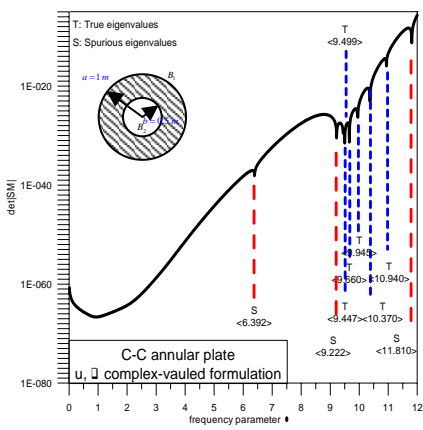
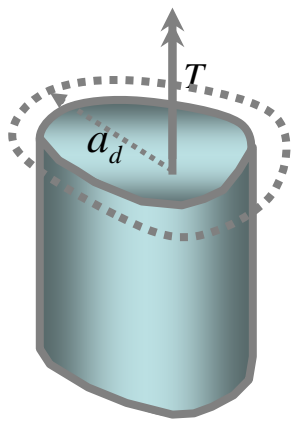


第一共振模態



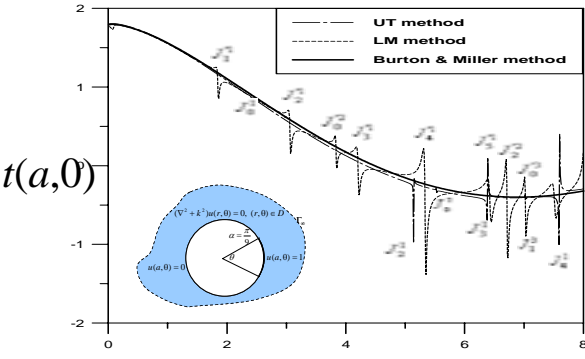
第二共振模態

邊界元素法中工程應用的幾個盲點研究：

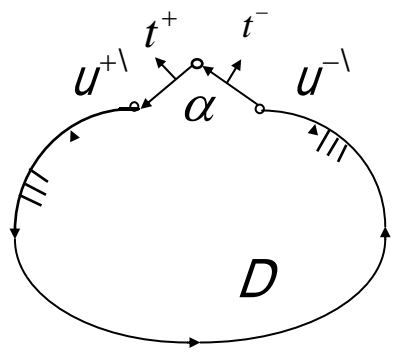


退化尺度問題

假根問題

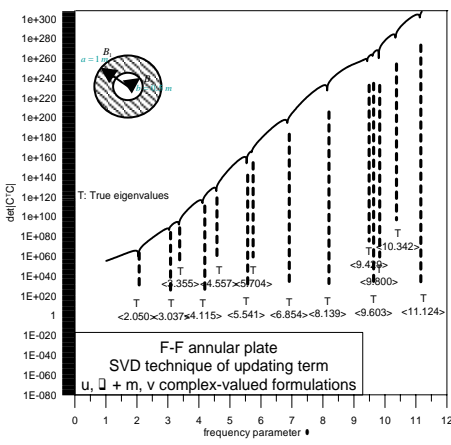


虛擬頻率問題

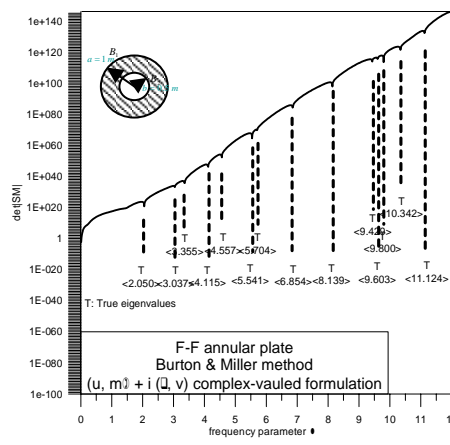


角點問題

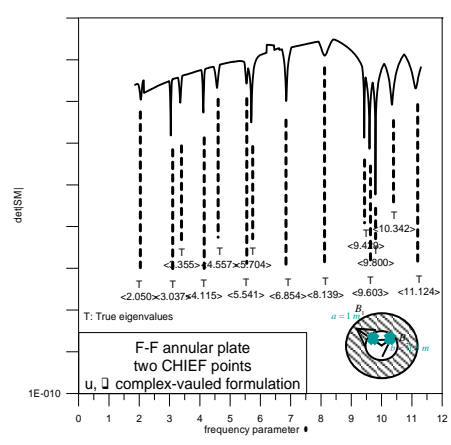
克服方法：



SVD updating term



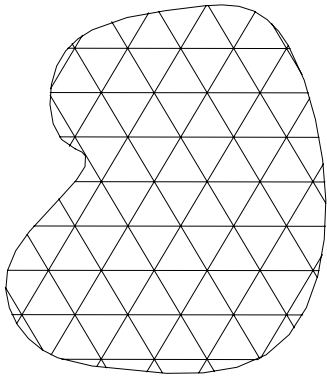
The Burton & Miller method



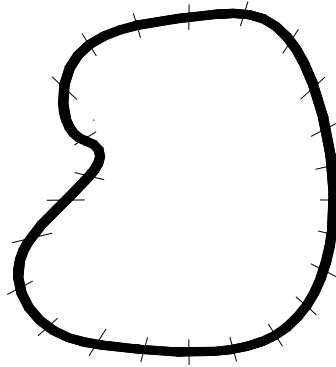
The CHIEF method

最新無網格方法程式開發與研究：

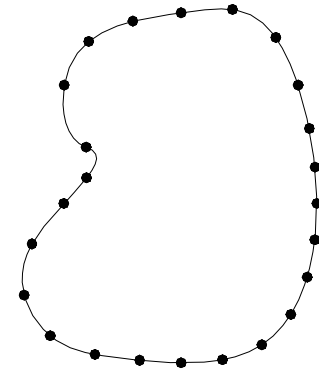
數值方法的進展



有限元素法網格

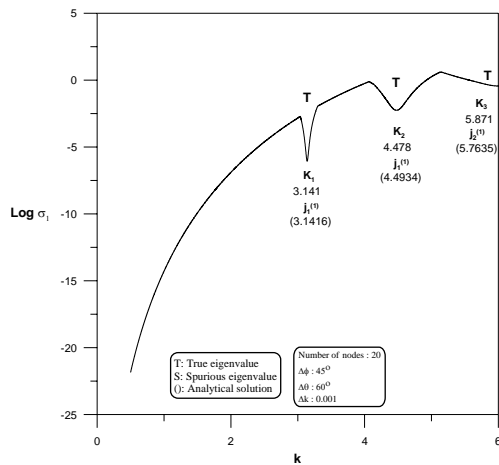


邊界元素法網格



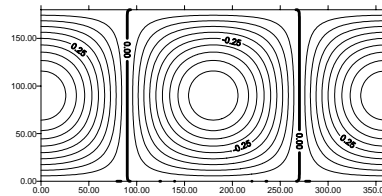
無網格法(僅含邊界源點)

三維聲場之共振問題

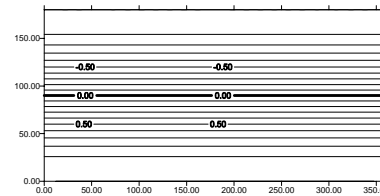


解析解

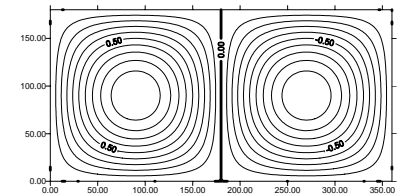
$m = -1$



$m = 0$



$m = -1$



單層勢能法

