Wen-Cheng Shen's schedule in the last three months

1. Eccentric case

   Error analysis: BEM, Trefftz method, MFS and the present method

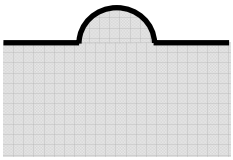
   Contour plot: ABAQUS, BEM, exact solution and the present method

2. Velocity field disturbed by two equal cylinders for analytical solution

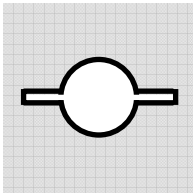
3.

	Interior	Exterior
Singular formulation		
Hypersingular formulation		

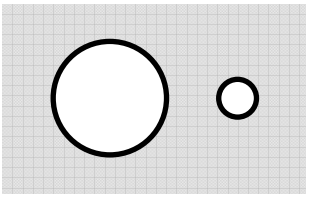
4. Find a numerical example in a half-plane bulged with a circular hill.



5. Laplace problem with straight boundary (with cracks)



6. Electrostatic potential



7. Anti-plane problem (Urge A. C. Wu to finish the subject using the program developed by W. C. Shen)

8. Degenerate kernel

$$U(s,x)=\begin{cases} U^i(R,\theta;\rho,\phi)=\ln R-\sum_{m=1}^{\infty}\frac{1}{m}(\frac{\rho}{R})^m\cos m(\theta-\phi),\ R\geq\rho \\ U^e(R,\theta;\rho,\phi)=\ln\rho-\sum_{m=1}^{\infty}\frac{1}{m}(\frac{R}{\rho})^m\cos m(\theta-\phi),\ \rho>R \end{cases}$$

$$M(s,x)=\begin{cases} M^i(R,\theta;\rho,\phi)=\sum_{m=1}^{\infty}(\frac{m\rho^{m-1}}{R^{m+1}})\cos m(\theta-\phi),\ R\geq\rho \\ M^e(R,\theta;\rho,\phi)=\sum_{m=1}^{\infty}(\frac{mR^{m-1}}{\rho^{m+1}})\cos m(\theta-\phi),\ \rho>R \end{cases}$$

Since the potential resulted from $T(s,x)$ and $L(s,x)$ kernels are discontinuous cross the boundary, the $T(s,x)$ for $R\to\rho^+$ and $R\to\rho^-$ are different. This is the reason why $R=\rho$ is not included in expressional degenerate kernels of $T(s,x)$ and $L(s,x)$.

9. Easy manual of LPCB (Laplace Problems with Circular Boundary) and ABAQUS