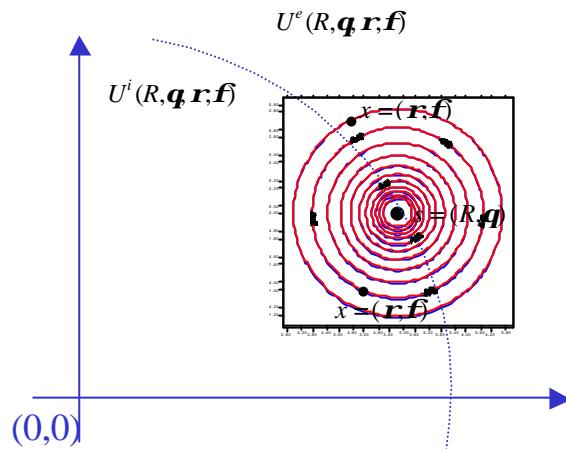


國立台灣海洋大學河海工程研究所 BEM 第 8 次作業

1. Please plot the kernel function $J_0(kr)$ in terms of degenerate kernel as shown below.

$$U(s, x) = \begin{cases} U^i(R, \mathbf{q}; \mathbf{r}, \mathbf{f}) = \sum_{n=-\infty}^{\infty} \hat{\mathbf{a}}_n J_m(kR) J_m(kr) (\cos(m(\mathbf{q} - \mathbf{f}))), & R > r \\ U^e(R, \mathbf{q}; \mathbf{r}, \mathbf{f}) = \sum_{n=-\infty}^{\infty} \hat{\mathbf{a}}_n J_m(kr) J_m(kR) (\cos(m(\mathbf{q} - \mathbf{f}))), & R < r \end{cases}$$



Polar coordinate $x = (\mathbf{r}, \mathbf{f})$ and $s = (R, \mathbf{q})$.