Satisfying b.c.'s with Bessel Functions
$\mathrm{J}_{0}$ 's that satisfy the b.c. $\mathrm{J}_{0}\left(a \rho_{0}\right)=0$
( $\rho_{0}=10$ and $a$ is adjusted to satsify the b.c.)


## A 3D look at the Drumhead, $J_{0}$ modes



## Satisfying b.c.'s with Bessel Functions

$J_{1}$ 's that satisfy the b.c. $J_{1}\left(a \rho_{0}\right)=0$
( $\rho_{0}=10$ and $a$ is adjusted to satsify the b.c.)


$$
\begin{aligned}
& \text { — } \mathrm{a}=0.3832 \\
& \begin{aligned}
\square & a=0.7016 \\
a & =1.0173
\end{aligned} \\
& \square a=1.3325
\end{aligned}
$$

## A 3D look at the Drumhead, $\mathrm{J}_{1}$ modes



