$$\begin{array}{l} -\frac{q_{s_{s}}^{2}\pi^{2}k\rho_{s}}{2\cos\left(\frac{q_{s}\pi^{2}}{L}\right)^{2}}\rho_{s} + \sin\left(\frac{c_{s}\pi^{2}}{L}\right)^{2}\rho_{s} + \sin\left(\frac{c_{s}\pi^{2}}{L}\right) + \rho_{s}\sin\left(\frac{c_{s}\pi^{2}}{L}\right) + \rho_{$$