collective dispersion for the out of plane  $\theta$ =0 para redA(radioRA)& redB(radioRB) d=0.01=  $\frac{(\omega_A - \omega_B)}{(\omega_A + \omega_B)/2}$ 1.02 1.00 **w0**<sup>0.98</sup> **q**ya 0.96 -2 0 2  $q_{xa}$