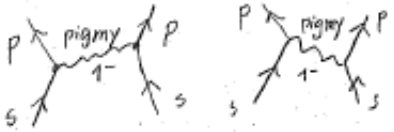
in overall agreement with the experimental findings (Zinser et al, 1997). It is of notice that the centroid of the pigmy resonance calculated in the RPA with the help of a separable interaction is $\approx (0.8\,\mathrm{MeV} + 2.0\,\mathrm{MeV})/2 \approx 1.4\,\mathrm{MeV}$ (see Fig. 11.3(a) p. 269, Brink and Broglia, 2010).

Let us now estimate the binding which the exchange of the pigmy resonance between two neutron of the Cooper pair halo of ^{11}Li can provide



The associated particle vibration coupling $\Lambda_i = \left(\partial W(E)/\partial E\big|_{\hbar\omega_{pigmy}}\right)^{-1/2}$, where $W(E)$ is the dispersion relation used to determine $\hbar\omega_{pigmy}$ (cf. e.g. Brink and Broglia Eq. (8,42) p. 189; (note the use of a dimensionless dipole single particle field $\tilde{F} = F/\langle r^2\rangle_{^{11}Li}$)

$$W(E) = \sum_{\nu_k \nu_i'} \frac{2(\varepsilon_k - \varepsilon_i)\,|\langle i|\tilde{F}/\langle r^2\rangle_{^{11}Li}|k\rangle|^2}{(\varepsilon_k - \varepsilon_i)^2 - E^2}$$

Zinser et al 1997 Nucl. Phys. A619, 151.