The two nonlinear parts will be comparable in this description. The first part is actually the contribution from Reynolds stress with FLR contributions included. The FLR part introduces the temperature perturbation and accordingly the resonance.

If we consider the resonant case, the terms containing the resonance will be larger and, accordingly, the two nonlinear parts will not enter to the same order. This will also require going to higher order in the nonlinear expansion. This can be done by introducing a nonlinear frequency shift in the nonlinear parts as:

$$\delta n^{(2)}{}_{k,\omega} = i\rho_s{}^2 \int \frac{1}{\varpi}(\vec{k}_1 \times \delta\vec{k}) \cdot \hat{e}_{\|}\; 2\vec{k}_1 \cdot \delta\vec{k} \left[\frac{\omega_{\bullet i}"-\omega''}{\varpi"} + \frac{\partial}{\partial\omega}\left(\frac{\omega_{\bullet i}"-\omega''}{\varpi"}\right)\delta\omega_{NL} \right] f_0 d^3V \left|\hat{\phi}_{k,\omega}\right|^2 \quad +$$

$$+\, i\rho_s{}^2 \int (\vec{k}_1 \times \delta\vec{k}) \cdot \hat{e}_{\|}\; \frac{1}{\varpi}\left[\frac{\partial}{\partial k}\frac{\omega_{\bullet} - \omega}{\varpi}\delta k_\theta + \Delta\{ \frac{\partial}{\partial\omega}\left(\frac{\omega_{\bullet i} - \omega}{\varpi}\right)\delta\omega_{NL}\} \right]_{k_1} \left|\hat{\phi}_{k,\omega}\right|^2 d^3V$$

Here we can allow the second part, which contain higher derivatives of the resonance, to dominate over the first part i.e. the nonlinearity from the energy equation will dominate even if we include the FLR contribution to the Reynolds stress.

The consequences for the fluid closure of these results were discussed in:

J. Weiland, , S. Dastgeer, R. Moestam, I. Holod and S. Gupta, *Excitation of zonal flows and fluid closure*, **Invited talk**, 13th International Toki Conference on Plasma Physics and Controlled Nuclear Fusion ITC13), Toki, Japan, December 9-12 2003. Paper I-16. Journal of Plasma and Fusion Research (JPFR) SERIES. (Japan) **Vol. 6** p 74-79 (2004)