Global normal forms and spectral properties for perturbations of harmonic oscillators

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We outline some recent investigations on global normal forms and spectral properties problems second order linear differential operators which might be viewed as perturbations (not necessarily self-adjoint) of multidimensional anisotropic harmonic oscillators $H = -\Delta + \sum_{j=1}^{n} \omega_j x_j^{2k_j}$, $\omega_j \in \mathbb{C}$, Re $\omega_j > 0$, $k_j \in \mathbb{N}$, $j = 1, \dots, n$.

The results are obtained in collaboration with G. Tranquilli (Università di Cagliari).