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**Review text:**

The Bogoliubov - Valatin transformation is a key technical trick within quantum many-body theory. It is based on a fruitful idea of quasi-particles and mixes the creation and annihilation operators in the linear manner. In practice, the main interest is usually paid to the computation of energies. Appendix of this paper demonstrates a close relationship of their spectra to the well known symplectic group structure of the transformation matrices. The formulae derived in the paper also show that even the explicit evaluation of the wave functions themselves can remain surprisingly compact for the general quadratic Hamiltonian describing a finite number of bosons.