V. B. Braginskiĭ. *Quantum Singularities in Macroscopic Measurements.* In principle, it is possible to detect the energy quantization of linear mechanical and electromagnetic oscillators at $kT \gg \hbar\omega$ if the level of dissipation in the oscillators is sufficiently low. The appearance of one or more quanta introduced into a mechanical oscillator by a small external force (for example, a gravity wave) can be registered if they are converted by parametric coupling to high-frequency electrical quanta in an electromagnetic oscillator. Thus, the detection problem is reduced to development of a high-frequency voltmeter with sensitivity adequate to detect a small change in the number of quanta in the electromagnetic oscillator.

Conventional (destructive) methods of measuring energy in the electric oscillator can be used to determine the number of quanta accurate to $n^{1/2}$ (at an initial number n) with minimal disturbance. After the measurement, the initial value n has been perturbed by an amount of the order of $n^{1/2}$. If the information on the frequency of the electrical oscillations (which can be measured with high accuracy *a priori*) and on the parameters of the measuring instrument is used optimally and fully, it becomes possible to measure n with high accuracy at a very low probability of quantum transitions to the levels $n \pm 1$ as a result of measurement (nondestructive quantum measurement).

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