

## **Resonant interaction of standing acoustic waves with a spin system**

Vagapov I., Solovarov N.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### **Abstract**

A theory is developed of the reaction of a spin system to a resonant action of an acoustic field and an electromagnetic field. It is shown that it is important to allow for the coherent properties of the acoustic field that excites the spin system both for the calculation of the line profile of direct acoustic absorption and for the line profile of saturation of paramagnetic resonance by sound. By studying the influence of the acoustic field on the profile of the absorption line of rf power it becomes possible to determine the magnitude and sign of the spin-phonon interaction constant. © 1975 Plenum Publishing Corporation.

<http://dx.doi.org/10.1007/BF00894412>

---