

The Frequency Offset Effects of NQR of Spin $I = 1$ for Remote Detection

G. V. Mozjoukhine

Quantum Radiophysics Department, Kaliningrad State University,
ul. Nevskogo, 14, 236040, Kaliningrad

Reprint requests to Dr. G. V. M.; E-mail: mgeorge@gazinter.net

Z. Naturforsch. **57 a**, 297–303 (2002); received January 23, 2002

*Presented at the XVIth International Symposium on Nuclear Quadrupole Interactions,
Hiroshima, Japan, September 9-14, 2001.*

The frequency offset effects of the signal interference during steady-state pulse sequences for remote nuclear quadrupole resonance (NQR) of ^{14}N nuclei were investigated for the purposes of optimization in remote NQR. The experimental investigations with the separation of interfering NQR signals in sequences for observing signals $\{\alpha^0 | \beta^{90^\circ} - \tau - \alpha^{180^\circ} | \beta^{90^\circ} - \tau\}$ and $\{\alpha^0 | \beta^{90^\circ} - \tau - \alpha^{0^\circ} | \beta^{270^\circ} - \tau\}$ were carried out. The applications of the spherical tensor method for pure NQR of spin $I = 1$ for the investigation of these sequences and one pulse sequence, two pulse sequences are presented, too.

Key words: NQR; Frequency Offset; Multipulse Sequences; FID; Echo; Interference Signal.