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Magnetic Field Effects on Relaxation Parameters of The Hexamethylenetetramine (HMT) NURCAN DOGAN, Gebze Institute of Technology — The use of low magnetic field is one of the method for improvement of the signal to noise ratio (SNR) of detection of the chemical compounds by nuclear quadrupole resonance (NQR). We investigated the FID phenomenon of nuclear quadrupole resonance (NQR) from hexamethylenetetramine (HMT), $C_6H_{12}N_4$, under magnetic field. The influence of the low magnetic field (up to 30 mT) was investigated for the detection of the pulse NQR signal for HMT. We detected the pure NQR FID signal of HMT with a short pulse interval. The intensity of the FID signal changed with applied magnetic field. The application of the low magnetic field produces the splitting and brodening of the NQR line. We observed T_1 , T_2 and T_2^* . HMT has a long T_2^* (near 1.5ms). This one represents the suitable sample for investigation of the influence of low magnetic field for NQR detection. The application of the low magnetic field produces the splitting and brodening of the NQR line.

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