Quadrupole Interaction of ^{172}Yb and ^{168}Er Nuclei in the First Excited 2^+ State

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We have measured the hyperfine interactions in $YbVO_4$ and $YbPO_4$ using ^{172}Yb perturbed angular correlation spectroscopy for 90 - 1094 keV and 1094 - 79 keV γ-γ cascades. The quadrupole interaction frequency varied with temperature from 0 to 2 GHz. Precise information was obtained from both cascades independently even using the cascade with the intermediate state of the half life as short as 1.6 ns.

Key words: Quadrupole Interaction; Perturbed Angular Correlations; ^{172}Yb; ^{168}Er; $YbVO_4$.