

Electric Quadrupole Interaction at ^{181}Ta in Isostructural Orthorhombic Cu_8Hf_3 and Cu_8Zr_3 Compounds*

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The quadrupole interaction of ^{181}Ta probes in isostructural Cu_8Hf_3 and Cu_8Zr_3 intermetallic compounds was studied in the temperature range 24 K–1100 K with the time-differential perturbed angular correlation technique. Two nonaxial electric field gradients corresponding to two nonequivalent hafnium or zirconium sites in the investigated structure were found. A linear decrease in the quadrupole interaction frequency with increase of temperature for the 8(d) sites was evidenced, while the $v_Q(T)$ dependence for the 4(c) sites is weaker and has a $T^{3/2}$ character.

Key words: Hyperfine Interactions; Perturbed Angular Correlations; EFG; Intermetallic Compounds; Cu-Hf and Cu-Zr Systems.

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