The defect structure of the tetragonal Cu$^{2+}$ center in PbTiO$_3$:Cu$^{2+}$ crystal is studied by analyzing the EPR g factors and hyperfine structure constants. From the study, we suggest that an oxygen vacancy occurs in the nearest-neighbors site of Cu$^{2+}$ due to charge compensation, and that the off-center displacement of Cu$^{2+}$ is smaller than that of the replaced host ion Ti$^{4+}$. The reasonableness of the defect structure is discussed.

Key words: Defect Structure; Electron Paramagnetic Resonance; Crystal-field Theory; Cu$^{2+}$; PbTiO$_3$