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## Isospin symmetry of $\omega$ meson at finite temperature in the soft-wall model of holographic QCD

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The coupling constants of  $\rho$  meson-nucleon and  $\omega$  meson-nucleon are connected through the isospin relation. Using the soft-wall model of holographic QCD, the current work aims to examine the violation (if any) of isospin symmetry of the  $\omega$ -meson as well as the temperature dependency of the  $\omega$ -meson- $\Delta$  and  $\omega$ -meson-nucleon- $\Delta$  baryon coupling constants. Applying the temperature-dependent profile functions of the vector and fermion fields to the expression of the coupling constants in the model yields the temperature dependence of the coupling constants. The minimum and magnetic type interactions between vector and fermion fields in 5-dimensional AdS space-time are included in the written interaction Lagrangian terms. The temperature dependence of the coupling constants  $g_{\omega NN}(T)$ ,  $g_{\omega \Delta \Delta}(T)$ , and  $g_{\omega N\Delta}(T)$  has been investigated. Comparing  $g_{\omega NN}(T)$  with the coupling constant  $g_{\rho NN}(T)$ , it is found that the isospin symmetry of the  $\omega$  and  $\rho$  mesons is not violated at the finite temperature. It is also observed that the coupling constant of the  $\omega$  meson with baryons decreases as the temperature increases, and this coupling constant becomes zero near the confinement phase transition temperature.

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