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**Analysis of meson screening mass at finite temperature and density in the effective model** MASAHIRO ISHII, Kyushu Univesity, TAKAHIRO SASAKI, Tokyo University, KOUJI KASHIWA, Kyoto University, HIROAKI KOUNO, Saga University, MASANOBU YAHIRO, Kyushu Univesity — Meson masses are not only fundamental quantities of hadrons but also a key to know the properties of QCD vacuum and the equation of state. At finite temperature ( $T$ ), we can define two kinds of meson masses, which are so called pole mass ( $M_{\text{pole}}$ ) and screening mass ( $M_{\text{scr}}$ ).  $M_{\text{pole}}$  ( $M_{\text{scr}}$ ) is defined by the exponential decay of the meson propagator in the temporal (spatial) direction. At finite  $T$ , in lattice QCD (LQCD) simulation, the calculation of  $M_{\text{pole}}$  is more difficult than that of  $M_{\text{scr}}$  because the temporal direction is limited up to  $1/T$ . Moreover, it is possible to calculate the imaginary chemical potential ( $\mu$ ) dependence of  $M_{\text{scr}}$  because LQCD simulation is feasible. Therefore, it is important to construct effective model which can describe the  $T$  and  $\mu$  dependence of  $M_{\text{pole}}$  and  $M_{\text{scr}}$  simultaneously. In this study, we calculate  $M_{\text{scr}}$  at imaginary  $\mu$ . Then, we discuss how to extrapolate  $M_{\text{scr}}$  from imaginary to real  $\mu$  region. Finally, we predict the  $\mu$  dependence of  $M_{\text{pole}}$  from that of  $M_{\text{scr}}$ .

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