Contribution ID: **241** Type: **Invited/Leading contribution**

Hadron properties in nuclear medium

I will discuss the effects of chiral symmetry breaking in the hadron masses. This is accomplished by separating the four quark operators appearing in the vector and axial vector meson sum rules into chiral symmetric and symmetry breaking parts. We then identify each part from the fit to the rho and a1 meson masses, which form chiral partners. By taking the chiral symmetry breaking part to be zero while keeping the symmetric operator to the vacuum value, we find that the chiral symmetric part of the rho and a1 meson mass to be between 550 and 600 MeV. Similar calculation for the chiral partner (K*,K1) as well as other non chiral partners are discussed. I will also discuss how present and future experiments on hadron masses can provide insights into the origin of hadron masses and their relation to chiral symmetry breaking.

Author: LEE, Su Houng

Presenter: LEE, Su Houng

Track Classification: Hadrons at finite density and temperature