Abstract Submitted for the HAW05 Meeting of The American Physical Society

Relation between the separable and one-boson-exchange potential for the covariant Bethe-Salpeter equation YUICHIRO MANABE, AT-SUSHI HOSAKA, HIROSHI TOKI, Research Center for Nuclear Physics, Osaka University, Japan, RCNP THEORY GROUP TEAM — We investigate the Relation between the rank I separable potential for the covariant Bethe-Salpeter equation and the one-boson-exchange potential. Parameters of the two potentials are related in the long wave length limit. It turns out that it is difficult to reproduce the phaseshifts calculated from a single term of the one-boson-exchange potential, separately by the rank I separable potential. Instead, it is shown that the separable potential is useful to parametrize the total nucleon-nuleon interaction.

> Yuichiro Manabe Research Center for Nuclear Physics, Osaka University, Japan

Date submitted: 23 May 2005

Electronic form version 1.4