Abstract

Coupled Kaehler-Einstein metrics were defined by Hultgren and Witt Nystroem and coupled Kaehler-Ricci solitons by Hultgren. We study coupled Sasaki-Einstein metrics and coupled Sasaki-Ricci solitons. We first review the history of the study of Kaehler/Sasaki Einstein metrics and Ricci solitons, and then see how to obtain extensions of the well-known obstructions to the existence of Kaehler-Einstein metrics to the coupled case. Secondly we show the existence of toric coupled Sasaki-Einstein metrics when the basic Chern class is positive extending the works of Wang-Zhu, Futaki-Ono-Wang, Hultgren.