# Abstract

There are several ways to define Chern-Ricci curvatures for the Chern connection on a non-Kahler Hermitian manifold. We introduce a notion of mixed-Chern-Ricci forms, which naturally occur in geometric problems and seem interesting to study, and consider fully nonlinear elliptic equations for their conformal deformation.

We establish a priori estimates and prove existence results for these equations under very general structure conditions.

Our work is motivated by the close connections of these equations to problems in non-Kahler complex geometry, and the fact that there have been increasing interests in fully nonlinear pde's beyond the complex Monge-Ampere equation from complex geometry.