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Anna Fino, University di Torino, **Gueo Grantcharov***, Florida International University, and
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We study balanced, SKT and astheno-Kaehler metrics and the interplay between them on specific examples. After noticing that some twistor spaces which have balanced metrics do not admit astheno-Kaehler ones, we provide a construction of astheno-Kaehler structures on toric bundles over Kaehler manifolds leading to new examples. In particular, we find non-Kaehler examples which admit a balanced and an astheno-Kähler metric, thus answering to a question of Szekelyhidi-Tosatti-Weinkove. We also show that the Lie groups $SU(3)$ and G_2 admit SKT and astheno-Kaehler metrics, which are different. Furthermore, we investigate the existence of balanced metrics on compact complex homogeneous spaces with an invariant volume form, showing in particular that if a compact complex homogeneous space M with invariant volume admits a balanced metric, then its first Chern class does not vanish. Finally we characterize Wang C-spaces admitting SKT metrics. (Received September 11, 2017)