

## **Curvature flows of almost-hermitian Lie groups**

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### **Abstract:**

We consider flows for almost-hermitian structures on a given differentiable manifold evolving both the Kähler form and the metric in the direction of a 2-form and a symmetric 2-tensor, respectively, which are usually curvature tensors of some canonical connection associated to each structure. After a general introduction, we will focus on left-invariant structures on Lie groups, and describe some regularity results, the bracket flow approach, as well as some general aspects concerning self-similar or soliton solutions. Finally, the well-known Chern-Ricci flow for hermitian manifolds and Symplectic curvature flow for almost-Kähler manifolds will be considered in more detail.