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617 N Santa Rita, Tucson, AZ 85721. *The RG-2 bracket flow on Lie groups and related
flows*. Preliminary report.

The RG-2 flow is the two-loop approximation of renormalization group flow for nonlinear sigma models, and serves as a natural extension of Ricci flow (which would be RG-1 flow). We will explore the RG-2 flow on homogenous spaces, primarily restricting to left invariant metrics on 3D unimodular Lie groups, by looking at the induced flows on the Lie brackets structure constants for an orthonormal left invariant frame. The bracket flow formulation has the advantage of turning many soliton (self-similar) solutions into fixed points. We will also consider related flows to RG-2 flow that exhibit additional fixed points. We take the viewpoint that the RG-2 flow and other flows are perturbations of the Ricci flow and consider these flows in this context. (Received September 10, 2014)