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Amine Fawaz* (fawaz_a@utpb.edu), 4901 E. University, Mathematics, Odessa, TX 79762. *On the Volume of Meromorphic Vector fields on Riemann Surfaces*. Preliminary report.

We define the volume of foliations on Riemann surfaces and we derive the associated Euler-Lagrange equations. We prove that holomorphic foliations are critical and we give upper and lower bounds for the volumes of meromorphic foliations; we also generalize the results for projectable meromorphic vector fields on principal circle bundles over Riemann surfaces. (Received August 18, 2008)