Meeting: 1006, Lubbock, Texas, SS 2A, Special Session on Differential Geometry and Its Applications

1006-53-29 **A Fawaz*** (fawaz_a@utpb.edu), 4901 East University, Departments of Mathematics, Odessa, TX 79762. *Energy and Flows on 3-manifolds.* Preliminary report.

One considers a smooth closed oriented 3-manifold M and a 1-dimensional foliation on M. We define the energy of the foliation and we give a geometric interpretation of the energy in terms of curvature data associated with the foliation. We derive the Euler-Lagrange equations corresponding to the energy functional and we apply them to Riemannian and conformal flows. (Received January 12, 2005)