Perfect Fluids Analyzed in Separable $f(R,T)$ Gravity SARAH
FISHER, ERIC CARLSON, Wake Forest University — $f(R,T)$ gravity is a gener-
alization of gravity where the gravitational contribution to the action is generalized
from R to an arbitrary function of the curvature R and the trace of the stress-energy
tensor T. We argue that whenever this function is separable and can be written in
the form $f(R,T) = f_1(R) + f_2(T)$, the f_2 term can always be absorbed into the
matter Lagrangian $\mathcal{L}_m$. How this is done is explicitly demonstrated for an arbitrary
perfect fluid.

Eric Carlson
Wake Forest Univ

Date submitted: 06 Jan 2020