Constraining the f(R,T) = R+2λT cosmological model using recent observational data*		
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Abstract: This paper examines the cosmological model $f(R,T) = R + 2\lambda T$, where λ is a free parameter, using Hubble and Pantheon datasets. The study employs a parametric form for the effective equation of state (EoS) to analyze its evolution with redshift and across cosmic epochs. Findings reveal an accelerating Universe with a deceleration parameter $q_{0=-0.64^{+0.03}_{-0.03}}$ and a transition redshift $z_{0=0.53^{+0.04}_{-0.03}}$. The model effectively generates the negative pressure needed for cosmic expansion and demonstrates stability, suggesting its potential for further exploration in cosmology.