Anisotropic Evolution of D-dimensional FRW Spacetime CHAD
MIDDLETON, Mesa State College — We examine the evolution of the D-
dimensional Einstein field equations subject to a flat, anisotropic Friedmann-
Robertson-Walker (FRW) metric. By choosing equations of state relating the 4-
and d-dimensional pressures to the density, we obtain an expression relating the
scale factors to an integration constant. For certain special cases, we obtain exact
solutions to the field equations. When the integration constant is set to zero, we
obtain the dynamical compactification scenario of Mohammedi et. al. When the vol-
ume of the D-dimensional spacetime is held constant, we find a late-time accelerated
expansion of the 4-dimensional Universe without a cosmological constant.

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