[tex60] **Maxwell distribution derived from minimizing the H−function**

Minimize Boltzmann's H-function

$$H(t) = \int d^3v\, f(\mathbf{v},t) \ln f(\mathbf{v},t)$$

for the spacially uniform velocity distribution $f(\mathbf{v},t)$ of a classical ideal gas. Impose the integral constraints

$$\int d^3v\, f(\mathbf{v},t) = 1, \quad \frac{1}{2}m \int d^3v\, v^2 f(\mathbf{v},t) = \frac{3}{2}k_B T,$$

dictated by normalization and equipartition, respectively. Show that the resulting velocity distribution is Maxwellian.