

$$P(x) \propto \exp(-E(x)/T) + \text{Constraint} \rightarrow \text{Result}$$

Problem	Energy E(x)	Constraint	Result
Poincaré	$\int R dV$	$\pi_1(M) = \{e\}$	$M \cong S^3$
Riemann	$ \operatorname{Re}(\rho) - 1/2 ^2$	$\xi(s) = \xi(1-s)$	$\operatorname{Re}(\rho) = 1/2$
Yang-Mills	$S[A] = \frac{1}{4g^2} \int \operatorname{tr}(F^2)$	G compact	$\Delta > 0$
Navier-Stokes	$\ \omega\ ^2$ (enstrophy)	$\nu > 0$	Regularity
Hodge	$\ \omega - \pi(\omega)\ ^2$	X projective	Algebraic
BSD	$\hat{h}(P)$ (height)	E modular	$\operatorname{ord} = \operatorname{rank}$
$P \neq NP$	violations	$T > T_c$	$\exp(\Omega(n))$ time