

4.2: Meaning of the Term “Ensemble”

An ensemble is just a collection. For example, a musical group is an ensemble. Think of a bunch of systems filling up a huge gymnasium.

- Microcanonical ensemble: A collection of many systems, all with the same volume, particle number, particle mass, chemical composition, etc., and each with energy $E < H(x) \leq E + \Delta E$.
- Canonical ensemble: A collection of many systems, all with the same volume, particle number, particle mass, chemical composition, etc., and each connected to the same heat bath (whence each with the same temperature T).

The names (selected by J. Willard Gibbs) are pretty poor.

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