

# Evaporative Cooling

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# 1 Theoretical Models for Evaporative Cooling

## 1.1 General Scaling Laws

First, evaporative cooling happens on an *exponential scale*: Within a certain time interval (naturally measured in units of collision times or relaxation times), all relevant parameters (number of atoms, temperature, density) change by a certain factor. The characteristic quantities for the evaporation process are therefore logarithmic derivatives such as

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