Physical quantities that are sometimes used as units alongside SI units

As explained in Introduction to SI units, physicists sometimes use quantities expressed in terms of fundamental constants of nature, alongside or instead of SI units. These fundamental constants include:

Kind of quantity	Physical quantity used as a unit measurement	Commonly used symbol
Speed	speed of light in a vacuum	c
Action	Planck constant divided by 2π[1]	$\hbar = h/(2\pi)$
Mass	electron rest mass	m_e
electric charge	elementary charge	e
Energy	Hartree energy[2]	E_h
Length	Bohr radius[3]	a_0
Time	ratio of action to energy	$\hbar/E_h$

Notes:
[1] $\hbar$ is often also called the "reduced Planck constant"

[2] The hartree or the Hartree energy (sometimes also referred to by the symbol Ha) is the atomic unit of energy and is defined as $2R_\infty hc$ where R_∞ is the Rydberg constant, h is the Planck constant and c is the speed of light in a vacuum. It is approximately the electric potential energy of the hydrogen atom in its ground state and approximately twice its ionization energy (the relationships are not exact because of the finite mass of the nucleus of the hydrogen atom and relativistic corrections). It is usually used as a unit of energy in atomic physics and computational chemistry. For experimental measurements at the atomic scale the electron volt is more commonly used. It also satisfies the following relationships:

$$E_h = \frac{\hbar^2}{m_e a_0^2} = m_e \left(\frac{e^2}{4\pi\epsilon_0 \hbar}\right)^2 = m_e c^2 \alpha^2 = \frac{\hbar c \alpha}{a_0}$$

where $\hbar$ is the reduced Planck constant, m_e is the electron rest mass, e is the elementary charge, a_0 is the Bohr radius, ϵ_0 is the electric constant (i.e. permittivity of free space), c is the speed of light in a vacuum and α is the fine structure constant.

[3] The Bohr radius, a_0, is approximately equal to the most probable distance between the proton and electron in a hydrogen atom in its ground state (according to the Bohr model of an atom). Its precise definition is (using definitions as above):

$$a_0 = \frac{4\pi\epsilon_0 \hbar^2}{m_e e^2} = \frac{\hbar}{m_e c \alpha}$$

The Nematrian website makes available a range of web functions that provide in programmatic form best estimates of the values of a wide range of physical constants, sourced from