

List of notations, nomenclatures, symbols

ΔH	Heat of reaction
R_{H_2}	Rate of hydrogen production
a	Fractional activity
A	Proportional constant
BE	Binding energy
C	Active sites of catalysts
CB	Conduction band
C_d	Capacitance crated due bulk and interface
d	Order of deactivation
D	Crystalline lattice sizes
d_{hkl}	Interplanar spacing
e^-	Electron
E_{BE}	Energy of the involved bound electron state
E_F	Fermi energy
E_g	Band gap energy
E_{KE}	Energy of the ejected electron
F	Faraday constant
FWHM	Full width at half maximum
GHG	Green House gases
GO	Graphene oxide
h	Plank constant
h^+	Hole
HTSE	High temperature steam electrolysis
IEA	International energy agency
$J/year$	Joule per year
k	Rate constant
K	Scherrer constant
k_d	Deactivation rate constant
m	Hydrogen production dependency factor

MNRE	Ministry of new and renewable energy
<i>Mtoe</i>	Million tonnes
<i>n</i>	Number of electrons / order of reflection
OSR	Oxidative steam reforming
PEC	Photo-electrochemical
POX	Partial oxidation reaction
PV	Photovoltaic
PZT	Piezoelectric transducers
R_{ct}	Resistance associated with an electrode reaction
rGO	Reduced graphene oxide
R_s	Resistance due to solution/ electrolyte
SR	Steam reforming
TCD	Thermal conductivity detector
VB	Valence band
Z	Impedance
α	optical absorption coefficient
β	Broadening
λ	Wave length
ν	Frequency of light
Φ_m	Work function of the metal
Φ_s	Work function of the semiconductor
Φ_b	Height of the potential barrier