

Universal Equalities

Gary Lyon Otto

1/28/07

| | Now | CBR Event | Big Bang |
|---|-----------------|-----------------|-----------------|
| Radius (R) [m] | 1.29614266E+26 | 1.17732959E+23 | 1.61624281E-35 |
| Planck-Wheeler's Radius (R_{P-W}) [m] | 1.61624281E-35 | 1.61624281E-35 | 1.61624281E-35 |
| Time (T) [s] | 4.32346655E+17 | 1.18358644E+13 | 1.90376265E-74 |
| Planck-Wheeler's Time (T_{P-W}) [s] | 5.39120571E-44 | 1.62483225E-45 | 1.90376265E-74 |
| Velocity of Light (c) [m/s] | 2.99792458E+08 | 9.94713649E+09 | 8.49023799E+38 |
| Kepler-Otto Universal Curvature Constant (K) [$m^3 s^{-4}$] | 1.16491493E+43 | 1.16491493E+43 | 1.16491493E+43 |
| Acceleration (A) [$m s^{-2}$] | 6.93407604E-10 | 8.40423322E-04 | 4.45944693E+112 |
| Gravitational Constant (G) [$m^3 kg^{-1} s^{-2}$] | 6.67428000E-11 | 7.34774312E-08 | 5.35236124E+50 |
| Mass (M) [kg] | 1.74537917E+53 | 1.58540509E+50 | 2.17645051E-08 |
| Planck-Wheeler's Mass (M_{P-W}) [kg] | 2.17645051E-08 | 2.17645051E-08 | 2.17645051E-08 |
| Planck-Otto's Mass (M_{P-O}) [kg] | 2.71395471E-69 | 2.98784004E-66 | 2.17645051E-08 |
| Universe's Mass Density (D) [$kg m^{-3}$] | 8.01560997E-26 | 9.71507311E-20 | 5.15500365E+96 |
| Planck-Wheeler's Density (D_{P-W}) [$kg m^{-3}$] | 5.15500365E+96 | 5.15500365E+96 | 5.15500365E+96 |
| Energy (E) [Joules - $kg m^2 s^{-2}$] | 1.56868737E+70 | 1.56868737E+70 | 1.56868737E+70 |
| Planck-Wheeler's Energy (E_{P-W}) [$kg m^2 s^{-2}$] | 1.95609616E+09 | 2.15350036E+12 | 1.56868737E+70 |
| Planck-Otto's Energy (E_{P-O}) [$kg m^2 s^{-2}$] | 2.43918085E-52 | 2.95633399E-46 | 1.56868737E+70 |
| Universe's Angular Momentum (L) [$kg m^2 s^{-1}$] | 6.78216739E+87 | 1.85667711E+83 | 2.98640844E-04 |
| Planck's Angular Momentum (\hbar) [$kg m^2 s^{-1}$] | 1.05457168E-34 | 3.49907683E-33 | 2.98640844E-04 |
| Frequency (ω) [s^{-1}] | 1.48751138E+104 | 4.48314642E+102 | 5.25275564E+73 |
| Universal Entropy (S) [No Units] | 6.43120569E+121 | 5.30619131E+115 | 1.00000000E+00 |
| Fundamental Charge Squared (e^2) [$kg m^3 s^{-2}$] | 2.30661781E-28 | | 2.53537970E+35 |
| Alpha (α) [No Units] | 7.29589934E-03 | | 1.00000000E+00 |

Radius [R] [m]

| | | | |
|-------------------------------------|----------------|----------------|----------------|
| cT | 1.29614266E+26 | 1.17732959E+23 | 1.61633980E-35 |
| EG/c^4 | 1.29615820E+26 | 1.17732958E+23 | 1.61585490E-35 |
| $(EGT^2/c^2)^{1/3}$ | 1.29614784E+26 | 1.17732958E+23 | 1.61617815E-35 |
| MKE | 1.29612713E+26 | 1.17732959E+23 | 1.61624282E-35 |
| K/c^2 | 1.29614266E+26 | 1.17732959E+23 | 1.61604885E-35 |
| $(ET^2/M)^{1/2}$ | 1.29615043E+26 | 1.17732958E+23 | 1.61624280E-35 |
| MG/c^2 | 1.29614266E+26 | 1.17732959E+23 | 1.61604885E-35 |
| $(GMT^2)^{1/3}$ | 1.29614266E+26 | 1.17732959E+23 | 1.61624281E-35 |
| $(KT^2)^{1/3}$ | 1.29614266E+26 | 1.17732959E+23 | 1.61624281E-35 |
| K^2/EG | 1.29612713E+26 | 1.17732959E+23 | 1.61624281E-35 |
| $R_{P-W} S^{1/2}$ | 1.29614266E+26 | 1.17732959E+23 | 1.61624281E-35 |
| $(c^2/GD)^{1/2}$ | 1.29613490E+26 | 1.17732959E+23 | 1.61633980E-35 |
| $\hbar S/(ME)^{1/2}$ | 1.29615043E+26 | 1.17732959E+23 | 1.61624281E-35 |
| $\omega R_{P-W}^2/c$ | 1.29614266E+26 | 1.17732959E+23 | 1.61614583E-35 |
| $M^2 G/\omega \hbar$ | 1.29612713E+26 | 1.17732959E+23 | 1.61624282E-35 |
| $(M^2 G R_{P-W}^2 / c \hbar)^{1/2}$ | 1.29613490E+26 | 1.17732959E+23 | 1.61619432E-35 |
| $T_{P-W} L / M R_{P-W}$ | 1.29615820E+26 | 1.17732959E+23 | 1.61624280E-35 |
| $(LT/M)^{1/2}$ | 1.29615043E+26 | 1.17732959E+23 | 1.61624281E-35 |
| $(LT/M_{P-O} S)^{1/2}$ | 1.29614266E+26 | 1.17732959E+23 | 1.61624281E-35 |
| $LT_{P-W} / M_{P-O} S R_{P-W}$ | 1.29614266E+26 | 1.17732959E+23 | 1.61624280E-35 |
| $LT / M_{P-W} S R_{P-W}$ | 1.29614266E+26 | 1.17732959E+23 | 1.61624280E-35 |
| $Th / M_{P-W} R_{P-W}$ | 1.29614266E+26 | 1.17732958E+23 | 1.61624280E-35 |
| $(Th / M_{P-O})^{1/2}$ | 1.29614266E+26 | 1.17732959E+23 | 1.61624281E-35 |
| $T_{P-W} \hbar / M_{P-O} R_{P-W}$ | 1.29614266E+26 | 1.17732959E+23 | 1.61624280E-35 |
| $(GM^2 R_{P-W}^2 / c \hbar)^{1/2}$ | 1.29613490E+26 | 1.17732959E+23 | 1.61619432E-35 |

Planck-Wheeler's Radius (R_{P-W}) [m]

| | | | |
|-------------------------------|----------------|----------------|----------------|
| $(G\hbar/c^3)^{1/2}$ | 1.61625250E-35 | 1.61624281E-35 | 1.61609734E-35 |
| $(\hbar T/M)^{1/2}$ | 1.61625250E-35 | 1.61624281E-35 | 1.61624281E-35 |
| $(\hbar GT/K)^{1/2}$ | 1.61625250E-35 | 1.61624281E-35 | 1.61624281E-35 |
| $T_{P-W} c$ | 1.61624281E-35 | 1.61624282E-35 | 1.61633980E-35 |
| RT_{P-W} / T | 1.61624281E-35 | 1.61624282E-35 | 1.61624281E-35 |
| $\hbar / c M_{P-W}$ | 1.61624281E-35 | 1.61624281E-35 | 1.61614582E-35 |
| $R/S^{1/2}$ | 1.61624281E-35 | 1.61624282E-35 | 1.61624281E-35 |
| $(cR/\omega)^{1/2}$ | 1.61624281E-35 | 1.61624281E-35 | 1.61629130E-35 |
| $(R^2 c \hbar / M^2 G)^{1/2}$ | 1.61625250E-35 | 1.61624281E-35 | 1.61629130E-35 |

| | | | |
|--------------------------------|----------------|----------------|----------------|
| LT_{P-W}/MR | 1.61626218E-35 | 1.61624281E-35 | 1.61624280E-35 |
| $LT_{P-W}/M_{P-O}SR$ | 1.61624281E-35 | 1.61624282E-35 | 1.61624280E-35 |
| $LT/M_{P-W}SR$ | 1.61624281E-35 | 1.61624281E-35 | 1.61624280E-35 |
| $(T_{P-W}\hbar/M_{P-W})^{1/2}$ | 1.61624281E-35 | 1.61624281E-35 | 1.61624281E-35 |
| $T_{P-W}\hbar/M_{P-O}R_{P-W}R$ | 1.61624281E-35 | 1.61624281E-35 | 1.61624280E-35 |
| $(T\hbar/M)^{1/2}$ | 1.61625250E-35 | 1.61624281E-35 | 1.61624281E-35 |
| $(cR^2\hbar/GM^2)^{1/2}$ | 1.61625250E-35 | 1.61624281E-35 | 1.61629130E-35 |

Time or Age of the Universe [T] [s]

| | | | |
|-------------------------|----------------|----------------|----------------|
| R/c | 4.32346655E+17 | 1.18358644E+13 | 1.90364841E-74 |
| $(R^3/GM)^{1/2}$ | 4.32346655E+17 | 1.18358644E+13 | 1.90376265E-74 |
| $(R^3c^2/EG)^{1/2}$ | 4.32344065E+17 | 1.18358645E+13 | 1.90387690E-74 |
| $(R^2M/E)^{1/2}$ | 4.32344065E+17 | 1.18358645E+13 | 1.90376266E-74 |
| $(R^2K/EG)^{1/2}$ | 4.32344065E+17 | 1.18358645E+13 | 1.90376266E-74 |
| $(R^3/K)^{1/2}$ | 4.32346655E+17 | 1.18358645E+13 | 1.90376265E-74 |
| MR_{P-W}^2/\hbar | 4.32341472E+17 | 1.18358644E+13 | 1.90376266E-74 |
| Sh/E | 4.32346656E+17 | 1.18358644E+13 | 1.90376266E-74 |
| L/E | 4.32346656E+17 | 1.18358645E+13 | 1.90376266E-74 |
| L/Mc^2 | 4.32351837E+17 | 1.18358644E+13 | 1.90353418E-74 |
| Sh/Mc^2 | 4.32351837E+17 | 1.18358644E+13 | 1.90353418E-74 |
| $T_{P-W}S^{1/2}$ | 4.32346655E+17 | 1.18358644E+13 | 1.90376265E-74 |
| MR^2/L | 4.32341473E+17 | 1.18358645E+13 | 1.90376266E-74 |
| $M_{P-O}SR^2/L$ | 4.32346656E+17 | 1.18358644E+13 | 1.90376266E-74 |
| $M_{P-W}SR_{P-W}R/L$ | 4.32346656E+17 | 1.18358644E+13 | 1.90376266E-74 |
| $M_{P-W}R_{P-W}R/\hbar$ | 4.32346656E+17 | 1.18358645E+13 | 1.90376266E-74 |
| $M_{P-O}R^2/\hbar$ | 4.32346656E+17 | 1.18358645E+13 | 1.90376266E-74 |

Planck-Wheeler's Time (T_{P-W}) [s]

| | | | |
|------------------------|----------------|----------------|----------------|
| R_{P-W}/c | 5.39120571E-44 | 1.62483224E-45 | 1.90364841E-74 |
| TR_{P-W}/R | 5.39120571E-44 | 1.62483224E-45 | 1.90376265E-74 |
| $(\hbar T/c^2M)^{1/2}$ | 5.39123802E-44 | 1.62483224E-45 | 1.90364841E-74 |
| $T/S^{1/2}$ | 5.39120571E-44 | 1.62483224E-45 | 1.90376265E-74 |

Velocity of Light [c] [m/s]

| | | | |
|-----------------------------|----------------|----------------|----------------|
| $(E/M)^{1/2}$ | 2.99794254E+08 | 9.94713646E+09 | 8.48972850E+38 |
| $(EG/R)^{1/4}$ | 2.99793356E+08 | 9.94713647E+09 | 8.48972852E+38 |
| $(EGT^2/R^3)^{1/2}$ | 2.99794254E+08 | 9.94713642E+09 | 8.48972850E+38 |
| $(K/R)^{1/2}$ | 2.99792458E+08 | 9.94713647E+09 | 8.48972852E+38 |
| R/T | 2.99792458E+08 | 9.94713652E+09 | 8.48972854E+38 |
| $(MG/R)^{1/2}$ | 2.99792458E+08 | 9.94713648E+09 | 8.48972854E+38 |
| $(EG/K)^{1/2}$ | 2.99794254E+08 | 9.94713647E+09 | 8.48972851E+38 |
| $\hbar R/R_{P-W}^2M$ | 2.99796052E+08 | 9.94713651E+09 | 8.48972851E+38 |
| $R_{P-W}T_{P-W}$ | 2.99792458E+08 | 9.94713645E+09 | 8.48972854E+38 |
| $\hbar/M_{P-W}R_{P-W}$ | 2.99792458E+08 | 9.94713647E+09 | 8.48972851E+38 |
| $(\hbar G/R_{P-W}^2)^{1/3}$ | 2.99793656E+08 | 9.94713649E+09 | 8.48972853E+38 |
| $\omega R_{P-W}^2/R$ | 2.99792458E+08 | 9.94713646E+09 | 8.48972854E+38 |
| $GM^2R_{P-W}^2/R^{2h}$ | 2.99788864E+08 | 9.94713646E+09 | 8.48972857E+38 |

Universal Curvature Constant [K] [m³/s²]

| | | | |
|---------------|----------------|----------------|----------------|
| c^2R | 1.16491493E+43 | 1.16491494E+43 | 1.16505475E+43 |
| GM | 1.16491493E+43 | 1.16491493E+43 | 1.16491494E+43 |
| ER/M | 1.16492889E+43 | 1.16491493E+43 | 1.16491493E+43 |
| EGT^2/R^2 | 1.16492889E+43 | 1.16491492E+43 | 1.16491492E+43 |
| EG/c^2 | 1.16492889E+43 | 1.16491493E+43 | 1.16477513E+43 |
| R^3/T^2 | 1.16491493E+43 | 1.16491494E+43 | 1.16491494E+43 |
| $(EGR)^{1/2}$ | 1.16492191E+43 | 1.16491493E+43 | 1.16491493E+43 |
| c^3T | 1.16491493E+43 | 1.16491493E+43 | 1.16512466E+43 |
| $(GLc)^{1/2}$ | 1.16492191E+43 | 1.16491493E+43 | 1.16494988E+43 |
| Lc/M | 1.16492889E+43 | 1.16491493E+43 | 1.16498484E+43 |

Universe's Gravitational Acceleration [A] [m/s²]

| | | | |
|---------|----------------|----------------|-----------------|
| R/T^2 | 6.93407604E-10 | 8.40423325E-04 | 4.45944695E+112 |
|---------|----------------|----------------|-----------------|

| | | | |
|------------------|----------------|----------------|-----------------|
| c/T | 6.93407604E-10 | 8.40423323E-04 | 4.45971455E+112 |
| $EG/c^4 T^2$ | 6.93415913E-10 | 8.40423319E-04 | 4.45837665E+112 |
| MK/ET^2 | 6.93399294E-10 | 8.40423327E-04 | 4.45944697E+112 |
| $K/c^2 T^2$ | 6.93407604E-10 | 8.40423322E-04 | 4.45891177E+112 |
| $(E/MT^2)^{1/2}$ | 6.93411758E-10 | 8.40423321E-04 | 4.45944693E+112 |
| $GM/c^2 T^2$ | 6.93407604E-10 | 8.40423324E-04 | 4.45891178E+112 |
| GM/R^2 | 6.93407604E-10 | 8.40423319E-04 | 4.45944695E+112 |
| $(EG/R^2 c^2)$ | 6.93415913E-10 | 8.40423314E-04 | 4.45891174E+112 |
| (E/RM) | 6.93415913E-10 | 8.40423316E-04 | 4.45944691E+112 |

$G [m^3/kg s^2]$

| | | | |
|-------------------------------|----------------|----------------|----------------|
| K/M | 6.67428000E-11 | 7.34774310E-08 | 5.35236122E+50 |
| ER/M^2 | 6.67435998E-11 | 7.34774309E-08 | 5.35236119E+50 |
| $R_{P,W}^2 c^3/\hbar$ | 6.67419999E-11 | 7.34774312E-08 | 5.35332488E+50 |
| Rc^4/E | 6.67420002E-11 | 7.34774318E-08 | 5.35364615E+50 |
| $R^3 c^2/ET^2$ | 6.67420002E-11 | 7.34774322E-08 | 5.35300368E+50 |
| R^5/ET^4 | 6.67420002E-11 | 7.34774326E-08 | 5.35236129E+50 |
| Kc^2/E | 6.67420002E-11 | 7.34774315E-08 | 5.35300367E+50 |
| Rc^2/M | 6.67428000E-11 | 7.34774313E-08 | 5.35300364E+50 |
| R^3/MT^2 | 6.67428000E-11 | 7.34774317E-08 | 5.35236124E+50 |
| KR^2/ET^2 | 6.67420002E-11 | 7.34774319E-08 | 5.35236127E+50 |
| $K^2/ER_{P,W}$ | 6.67420002E-11 | 7.34774312E-08 | 5.35236126E+50 |
| $K/S^{1/2} M_{P,W}$ | 6.67419999E-11 | 7.34774310E-08 | 5.35236122E+50 |
| $\omega R \hbar/M^2$ | 6.67436000E-11 | 7.34774312E-08 | 5.35236122E+50 |
| $R^2 c \hbar/M^2 R_{P,W}^2$ | 6.67436001E-11 | 7.34774314E-08 | 5.35268241E+50 |
| $cR^2 \hbar/R_{P,W}^2 M^2$ | 6.67436001E-11 | 7.34774314E-08 | 5.35268241E+50 |
| $R_{P,W}^5/T_{P,W}^3 \hbar$ | 6.67419998E-11 | 7.34774303E-08 | 5.35236126E+50 |
| $c^3 T_{P,W}^2/M_{P,W}$ | 6.67419999E-11 | 7.34774314E-08 | 5.35332486E+50 |
| $KR_{P,W}^2/T \hbar$ | 6.67419999E-11 | 7.34774311E-08 | 5.35236124E+50 |
| $R_{P,W}^3/T_{P,W}^2 M_{P,W}$ | 6.67419997E-11 | 7.34774305E-08 | 5.35236124E+50 |
| $c^3 T/M$ | 6.67428000E-11 | 7.34774311E-08 | 5.35332486E+50 |
| $c^3 T_{P,W}/M_{P,W}$ | 6.67419999E-11 | 7.34774314E-08 | 5.35332486E+50 |
| $R_{P,W}^3/T_{P,W} T M_{P,O}$ | 6.67419998E-11 | 7.34774310E-08 | 5.35236124E+50 |
| $KR_{P,W}^2/R^2 M_{P,O}$ | 6.67419998E-11 | 7.34774308E-08 | 5.35236122E+50 |
| $R_{P,W} c^2/M_{P,W}$ | 6.67419998E-11 | 7.34774311E-08 | 5.35300364E+50 |

$Mass [M] [kg]$

| | | | |
|-----------------------------------|----------------|----------------|----------------|
| AR^2/G | 1.74537918E+53 | 1.58540510E+50 | 2.17645050E-08 |
| E/c^2 | 1.74540009E+53 | 1.58540508E+50 | 2.17618930E-08 |
| $(ER/G)^{1/2}$ | 1.74538963E+53 | 1.58540509E+50 | 2.17645050E-08 |
| AET^2/K | 1.74540009E+53 | 1.58540508E+50 | 2.17645049E-08 |
| ET^2/R^2 | 1.74540009E+53 | 1.58540507E+50 | 2.17645049E-08 |
| Rc^2/G | 1.74537917E+53 | 1.58540509E+50 | 2.17671173E-08 |
| R^3/GT^2 | 1.74537917E+53 | 1.58540510E+50 | 2.17645051E-08 |
| K/G | 1.74537917E+53 | 1.58540509E+50 | 2.17645050E-08 |
| ER/K | 1.74540009E+53 | 1.58540509E+50 | 2.17645050E-08 |
| $\hbar T/R_{P,W}^2$ | 1.74540010E+53 | 1.58540509E+50 | 2.17645050E-08 |
| $E_{P,W}^2 T^3/\hbar R^2$ | 1.74540009E+53 | 1.58540507E+50 | 2.17645048E-08 |
| $E_{P,W}^2 T/\hbar c^2$ | 1.74540009E+53 | 1.58540508E+50 | 2.17618929E-08 |
| L/Tc^2 | 1.74540009E+53 | 1.58540509E+50 | 2.17618931E-08 |
| $\hbar T/R_{P,W}^2$ | 1.74540010E+53 | 1.58540509E+50 | 2.17645050E-08 |
| $M_{P,W} S^{1/2}$ | 1.74540010E+53 | 1.58540509E+50 | 2.17645051E-08 |
| $S^2 \hbar^2/R^2 E$ | 1.74540010E+53 | 1.58540508E+50 | 2.17645051E-08 |
| $S \hbar/Rc$ | 1.74540009E+53 | 1.58540508E+50 | 2.17631990E-08 |
| $M_{P,O} S$ | 1.74540010E+53 | 1.58540509E+50 | 2.17645051E-08 |
| $\omega \hbar/c^2$ | 1.74540010E+53 | 1.58540509E+50 | 2.17618931E-08 |
| $(\omega R \hbar/G)^{1/2}$ | 1.74538964E+53 | 1.58540509E+50 | 2.17645051E-08 |
| $(R^2 c \hbar/R_{P,W}^2 G)^{1/2}$ | 1.74538964E+53 | 1.58540509E+50 | 2.17651581E-08 |
| $LT_{P,W}/R_{P,W} R$ | 1.74540010E+53 | 1.58540509E+50 | 2.17645050E-08 |
| LT/R^2 | 1.74540009E+53 | 1.58540508E+50 | 2.17645050E-08 |
| $Th/R_{P,W}^2$ | 1.74540010E+53 | 1.58540509E+50 | 2.17645050E-08 |
| $(cR^2 \hbar/R_{P,W}^2 G)^{1/2}$ | 1.74538964E+53 | 1.58540509E+50 | 2.17651581E-08 |

$Planck'-Wheeler's Mass (M_{P,W}) [kg]$

| | | | |
|--|----------------|----------------|----------------|
| $(\hbar c/G)^{1/2}$ | 2.17643746E-08 | 2.17645051E-08 | 2.17651581E-08 |
| $M/S^{1/2}$ | 2.17642442E-08 | 2.17645051E-08 | 2.17645051E-08 |
| \hbar/cR_{P-W} | 2.17645051E-08 | 2.17645051E-08 | 2.17631990E-08 |
| $M_{P-O}S^{1/2}$ | 2.17645051E-08 | 2.17645050E-08 | 2.17645051E-08 |
| $LT/SR_{P-W}R$ | 2.17645051E-08 | 2.17645050E-08 | 2.17645050E-08 |
| $T_{P-W}\hbar/R_{P-W}^2$ | 2.17645051E-08 | 2.17645051E-08 | 2.17645050E-08 |
| $Th/R_{P-W}R$ | 2.17645051E-08 | 2.17645050E-08 | 2.17645050E-08 |
| Planck Otto's Mass (M_{P-O}) [kg] | | | |
| E_{P-O}/C^2 | 2.71395471E-69 | 2.98784004E-66 | 2.17618930E-08 |
| \hbar/Tc^2 | 2.71395471E-69 | 2.98784004E-66 | 2.17618931E-08 |
| \hbar/Rc | 2.71395471E-69 | 2.98784003E-66 | 2.17631990E-08 |
| M/S | 2.71392218E-69 | 2.98784005E-66 | 2.17645051E-08 |
| $\hbar c/K$ | 2.71395471E-69 | 2.98784004E-66 | 2.17658111E-08 |
| $R_{P-W}^2M_{P-W}/T_{P-W}Tc^2$ | 2.71395471E-69 | 2.98784004E-66 | 2.17618932E-08 |
| LT/SR^2 | 2.71395471E-69 | 2.98784003E-66 | 2.17645050E-08 |
| $LT_{P-W}/SR_{P-W}R$ | 2.71395471E-69 | 2.98784005E-66 | 2.17645050E-08 |
| Th/R^2 | 2.71395471E-69 | 2.98784002E-66 | 2.17645050E-08 |
| $T_{P-W}\hbar/R_{P-W}R$ | 2.71395471E-69 | 2.98784005E-66 | 2.17645050E-08 |
| Universe's Mass Density (D) [kg/m³] | | | |
| M/R^3 | 8.01551389E-26 | 9.71507304E-20 | 5.15500367E+96 |
| M_{P-W}/S | 8.01560998E-26 | 9.71507311E-20 | 5.15500365E+96 |
| $(GT^2)^{-1}$ | 8.01551389E-26 | 9.71507311E-20 | 5.15500367E+96 |
| D_{P-W}/S | 8.01560998E-26 | 9.71507311E-20 | 5.15500365E+96 |
| Planck-Wheeler's Density (D_{P-W}) [kg/m³] | | | |
| $c^5/\hbar G^2$ | 5.15488007E+96 | 5.15500366E+96 | 5.15655060E+96 |
| $M^2/TR\hbar$ | 5.15488007E+96 | 5.15500366E+96 | 5.15500369E+96 |
| $R^5/T^5\hbar G^2$ | 5.15488007E+96 | 5.15500373E+96 | 5.15500365E+96 |
| DS | 5.15500364E+96 | 5.15500365E+96 | 5.15500365E+96 |
| Universe's Energy Content [E] [kg m²/s²] | | | |
| Mc^2 | 1.56866857E+70 | 1.56868738E+70 | 1.56887566E+70 |
| M^2G/R | 1.56866857E+70 | 1.56868738E+70 | 1.56868738E+70 |
| MK/R | 1.56866857E+70 | 1.56868737E+70 | 1.56868738E+70 |
| Rc^4/G | 1.56866857E+70 | 1.56868738E+70 | 1.56906396E+70 |
| R^3c^2/GT^2 | 1.56866857E+70 | 1.56868739E+70 | 1.56887566E+70 |
| R^5/GT^4 | 1.56866857E+70 | 1.56868740E+70 | 1.56868738E+70 |
| Kc^2/G | 1.56866857E+70 | 1.56868738E+70 | 1.56887565E+70 |
| K^2/GR | 1.56866857E+70 | 1.56868737E+70 | 1.56868737E+70 |
| L/T | 1.56868737E+70 | 1.56868738E+70 | 1.56868738E+70 |
| $E_{P-W}S^{1/2}$ | 1.56868737E+70 | 1.56868737E+70 | 1.56868737E+70 |
| Sh/T | 1.56868737E+70 | 1.56868738E+70 | 1.56868738E+70 |
| $S^2\hbar^2/R^2M$ | 1.56870618E+70 | 1.56868736E+70 | 1.56868737E+70 |
| MAR | 1.56866857E+70 | 1.56868738E+70 | 1.56868738E+70 |
| $E_{P-O}S$ | 1.56868738E+70 | 1.56868737E+70 | 1.56868737E+70 |
| Planck-Wheeler's Energy (E_{P-W}) [kg m²/s²] | | | |
| $M_{P-W}C^2$ | 1.95609617E+09 | 2.15350037E+12 | 1.56887566E+70 |
| $M_{P-W}R^2/T^2$ | 1.95609617E+09 | 2.15350038E+12 | 1.56868738E+70 |
| $(\hbar c^5/G)^{1/2}$ | 1.95608444E+09 | 2.15350037E+12 | 1.56892273E+70 |
| $(\hbar R^2M/T^3)^{1/2}$ | 1.95608444E+09 | 2.15350037E+12 | 1.56868738E+70 |
| \hbar/T_{Pj} | 1.95609616E+09 | 2.15350036E+12 | 1.56868738E+70 |
| $E/S^{1/2}$ | 1.95609616E+09 | 2.15350036E+12 | 1.56868737E+70 |
| $\hbar c/R_{P-W}$ | 1.95609616E+09 | 2.15350037E+12 | 1.56878151E+70 |
| $E_{P-O}S^{1/2}$ | 1.95609617E+09 | 2.15350036E+12 | 1.56868737E+70 |
| Planck-Otto's Energy (E_{P-O}) [kg m²/s²] | | | |
| $M_{P-O}C^2$ | 2.43918085E-52 | 2.95633399E-46 | 1.56887566E+70 |
| $\hbar c/R$ | 2.43918085E-52 | 2.95633399E-46 | 1.56878151E+70 |
| \hbar/T | 2.43918085E-52 | 2.95633400E-46 | 1.56868738E+70 |

| | | | |
|-----------------------------------|----------------|----------------|----------------|
| E/S | 2.43918084E-52 | 2.95633398E-46 | 1.56868737E+70 |
| $R_{P-W}^2 M_{P-W} / T_{P-W} T$ | 2.43918085E-52 | 2.95633399E-46 | 1.56868738E+70 |
| $R_{P-W}^2 M_{P-W} c / T_{P-W} R$ | 2.43918085E-52 | 2.95633398E-46 | 1.56878152E+70 |

Universal Angular Momentum (L) [kg m²/s]

| | | | |
|----------------------------|----------------|----------------|----------------|
| RMc | 6.78208610E+87 | 1.85667712E+83 | 2.98658766E-04 |
| $S\hbar$ | 6.78216739E+87 | 1.85667711E+83 | 2.98640844E-04 |
| ET | 6.78216737E+87 | 1.85667710E+83 | 2.98640842E-04 |
| TMc^2 | 6.78208610E+87 | 1.85667711E+83 | 2.98676688E-04 |
| KMc | 6.78208610E+87 | 1.85667711E+83 | 2.98622924E-04 |
| K^2/Gc | 6.78208610E+87 | 1.85667711E+83 | 2.98622923E-04 |
| $MR_{P-W}R/T_{P-W}$ | 6.78208609E+87 | 1.85667711E+83 | 2.98640845E-04 |
| MR^2/T | 6.78208610E+87 | 1.85667712E+83 | 2.98640845E-04 |
| $M_{P-O}SR^2/T$ | 6.78216740E+87 | 1.85667712E+83 | 2.98640845E-04 |
| $M_{P-O}SR_{P-W}R/T_{P-W}$ | 6.78216739E+87 | 1.85667710E+83 | 2.98640845E-04 |
| $M_{P-O}SRC$ | 6.78216740E+87 | 1.85667711E+83 | 2.98658766E-04 |
| $M_{P-W}SR_{P-W}R/T$ | 6.78216740E+87 | 1.85667712E+83 | 2.98640845E-04 |
| $M_{P-W}SR_{P-W}C$ | 6.78216740E+87 | 1.85667711E+83 | 2.98658766E-04 |

Planck's Angular Momentum (\hbar) [kg m²/s]

| | | | |
|-------------------------------|----------------|--------------------------|----------------|
| $R_{P-W}^2 M/T$ | 1.05455904E-34 | 3.49907683E-33 | 2.98640845E-04 |
| $R_{P-W}M_{P-W}C$ | 1.05457168E-34 | 3.49907684E-33 | 2.98658766E-04 |
| $R_{P-W}^2 M_{P-W} / T_{P-W}$ | 1.05457168E-34 | 3.49907682E-33 | 2.98640845E-04 |
| $R_{P-W}^2 Mc/R_S$ | 1.05455904E-34 | 3.49907682E-33 | 2.98658766E-04 |
| L/S | 1.05457168E-34 | 3.49907684E-33 | 2.98640844E-04 |
| MRc/S | 1.05455904E-34 | 3.49907685E-33 | 2.98658766E-04 |
| ET/S | 1.05457168E-34 | 3.49907682E-33 | 2.98640842E-04 |
| $R(ME)^{1/2}/S$ | 1.05456536E-34 | 3.49907684E-33 | 2.98640844E-04 |
| $M_{P-O}cR_{P-W}$ | 1.05457168E-34 | 3.49907684E-33 | 2.98658766E-04 |
| e^2/ac | 1.05457168E-34 | α & e^2 Unknown | 2.98622925E-04 |
| $c^3 R_{P-W}^2 / G$ | 1.05455904E-34 | 3.49907683E-33 | 2.98694611E-04 |
| KR_{P-W}^2 / GT | 1.05455904E-34 | 3.49907683E-33 | 2.98640844E-04 |
| $KR_{P-W}^2 c / GTR$ | 1.05455904E-34 | 3.49907682E-33 | 2.98658765E-04 |
| Mc^2/ω | 1.05455904E-34 | 3.49907684E-33 | 2.98676688E-04 |
| $R_{P-W}^2 M^2 G / cR^2$ | 1.05455904E-34 | 3.49907682E-33 | 2.98622925E-04 |
| $M_{P-W}R_{P-W}^2 / T_{P-W}$ | 1.05457168E-34 | 3.49907682E-33 | 2.98640845E-04 |
| $M_{P-W}R_{P-W}R/T$ | 1.05457168E-34 | 3.49907685E-33 | 2.98640845E-04 |
| $M_{P-W}R_{P-W}C$ | 1.05457168E-34 | 3.49907684E-33 | 2.98658766E-04 |
| $M_{P-O}R^2/T$ | 1.05457168E-34 | 3.49907685E-33 | 2.98640845E-04 |
| $M_{P-O}Rc$ | 1.05457168E-34 | 3.49907684E-33 | 2.98658766E-04 |
| $M_{P-O}R_{P-W}R/T_{P-W}$ | 1.05457168E-34 | 3.49907682E-33 | 2.98640845E-04 |
| MR_{P-W}^2/T | 1.05455904E-34 | 3.49907683E-33 | 2.98640845E-04 |
| $GM^2 R_{P-W}^2 / cR^2$ | 1.05455904E-34 | 3.49907682E-33 | 2.98622925E-04 |

Frequency (ω) [s⁻¹]

| | | | |
|----------------|-----------------|-----------------|----------------|
| Mc^2/\hbar | 1.48749355E+104 | 4.48314643E+102 | 5.25338610E+73 |
| cR/R_{P-W}^2 | 1.48751138E+104 | 4.48314644E+102 | 5.25307085E+73 |
| $M^2 G/R\hbar$ | 1.48749355E+104 | 4.48314642E+102 | 5.25275566E+73 |

Universal Entropy (S) [No Units]

| | | | |
|-----------------------|-----------------|-----------------|----------------|
| ET/\hbar | 6.43120567E+121 | 5.30619129E+115 | 9.99999995E-01 |
| $(R_S/R_P)^2$ | 6.43120570E+121 | 5.30619135E+115 | 1.00000000E+00 |
| $(T/T_P)^2$ | 6.43120569E+121 | 5.30619127E+115 | 1.00000000E+00 |
| $MK/\hbar c$ | 6.43112861E+121 | 5.30619132E+115 | 9.99939996E-01 |
| MTc^2/\hbar | 6.43112861E+121 | 5.30619132E+115 | 1.00012002E+00 |
| $R_S(ME)^{1/2}/\hbar$ | 6.43116714E+121 | 5.30619132E+115 | 9.99999999E-01 |
| D_{P-W}/D | 6.43120570E+121 | 5.30619131E+115 | 1.00000000E+00 |
| $(E/E_{P-W})^2$ | 6.43120567E+121 | 5.30619129E+115 | 1.00000000E+00 |
| $(M/M_{P-W})^2$ | 6.43105149E+121 | 5.30619131E+115 | 1.00000000E+00 |
| $(R_S/R_{P-W})^2$ | 6.43120570E+121 | 5.30619135E+115 | 1.00000000E+00 |
| L/\hbar | 6.43120569E+121 | 5.30619132E+115 | 1.00000000E+00 |
| $K^2/G\hbar c$ | 6.43112861E+121 | 5.30619131E+115 | 9.99939993E-01 |
| $M^2 G/\hbar c$ | 6.43112861E+121 | 5.30619133E+115 | 9.99939998E-01 |

| | | | |
|--------------------------------------|-----------------|-----------------|----------------|
| MK/GM_{P-W}^2 (NOT EXACT - WHY???) | 6.43105149E+121 | 5.30619130E+115 | 9.99999997E-01 |
| $LT/M_{P-O}R^2$ | 6.43120568E+121 | 5.30619129E+115 | 9.99999996E-01 |
| $LT_{P-W}/M_{P-O}R_{P-W}R$ | 6.43120569E+121 | 5.30619133E+115 | 9.99999996E-01 |
| $LT/M_{P-W}R_{P-W}R$ | 6.43120568E+121 | 5.30619129E+115 | 9.99999996E-01 |

Fundamental Charge Squared (e^2) [kg m³ s⁻²]

| | |
|-----------------|----------------|
| $\alpha\hbar c$ | 2.30661781E-28 |
|-----------------|----------------|

Alpha (α) [No Units]

| | |
|---------------|----------------|
| $e^2/\hbar c$ | 7.29589934E-03 |
|---------------|----------------|

Numbers are improperly carried to nine significant digits. Many of the calculations are dependent upon the age of the Universe, which is assumed to be 13.7 billion years old. This number only has three significant digits. The allowed discrepancy aids in the understanding of the interrelationship of the components of the Universal Equation.