Table of Dimensionalities for Physical Quantities

in objective units (*g*, *cm*, *s*) [1] and Bartini Space-Time System LT (*cm*, *s*) [2]

	L^{-2}	L^{-1}	L^{0}	L^{1}	L^{2}	L^{3}	L^{4}	L^{5}	L^{6}
T^{-6}	$G=(\omega_g)^2/4\pi\varepsilon_0$, where $\omega_g = 9.15814\cdot10^{-4}\ s^{-1}$ is the **fundamental frequency** of gravitational field of elementary particles, $\varepsilon_0=1\ g/cm^3$ is the absolute unit density. $\alpha=\upsilon_0/c$ is the **scale correlation** between oscillatory and wave speeds in wave processes (υ_0 is limiting oscillatory speed, equal to the first Bohr speed, c is the basis wave speed, equal to the speed of light). $\Delta=2\pi\lg e$ is **Fundamental Period** of the Decimal Code of the Universe.					$L^{3}T^{-6}$	$L^{4}T^{-6}$	*Rate of change of power of exchange,* dN/dt $g\cdot cm^2\cdot s^{-4}$	*Rate of transfer of power of exchange,* Nv $g\cdot cm^3\cdot s^{-4}$
T^{-5}					$L^{2}T^{-5}$	*Rate of change of current (electric,* dI/dt*)* $g\cdot s^{-3}$ *Sound strength, Irradiance Heat flux density,* W/Ss	*Rate of change of kinema,* dF/dt $g\cdot cm\cdot s^{-3}$	*Power of exchange,* $N=dW/dt$ *("Power")* $g\cdot cm^2\cdot s^{-3}$ *Heat transfer rate Radiant flux*	*Rate of transfer of energy,* Wv $g\cdot cm^3\cdot s^{-3}$
T^{-4}		$L^{0}T^{0}$		*Current density,* $j=I/S$ *Specific weight,* $\gamma=F/v$ $g\cdot cm^{-2}\cdot s^{-2}$ *Rate of change of conductance,* dG/dt	*Pressure,* $P=F/S$ *Energy density,* W/v $g\cdot cm^{-1}\cdot s^{-2}$ *Rate of change of circulation,* $d\Gamma/dt$	*Rate of change of exchange charge (electric current),* $I=dq/dt$ $g\cdot s^{-2}$ *Surface tension*	*Kinema of exchange,* $F=qv=m(dv/dt)$ *("Force")* $g\cdot cm\cdot s^{-2}$	*Energy, Work,* $W=Fdl$ *Quantity of heat* $g\cdot cm^2\cdot s^{-2}$ *Moment of force. Heat flow*	*Rate of transfer of action* $g\cdot cm^3\cdot s^{-2}$
T^{-3}		*Acoustic resistance* $g\cdot cm^{-4}\cdot s^{-1}$	*Charge density,* q/v *Conductivity,* $\sigma=1/\rho$ $g\cdot cm^{-3}\cdot s^{-1}$ *Rate of change of angular acceleration:* s^{-3}	*Surface charge density,* q/S *Momentum density,* mv/v *D and H fields Conductance,* $G=I/R$ $g\cdot cm^{-2}\cdot s^{-1}$	*Circulation,* $\Gamma=Ic$ $g\cdot cm^{-1}\cdot s^{-1}$ *Dynamic viscosity,* Ft/S	*Exchange charge,* $q=dg/dt$ *("electric", "magnetic", and gravitational charge)* $g\cdot s^{-1}$ *Mechanical resistance*	*Dipole moment,* qr *Magnetic moment,* $(v/c)qr$ $g\cdot cm\cdot s^{-1}$ *Momentum,* mv	*Moment of momentum,* mvr *(angular momentum, action)* $g\cdot cm^2\cdot s^{-1}$	*Moment of action* $g\cdot cm^3\cdot s^{-1}$
T^{-2}		$L^{-1}T^{-2}$	*Mass density,* m/v $g\cdot cm^{-3}$ *Angular acceleration* s^{-2}	*Acceleration,* $a=dv/dt$ $cm\cdot s^{-2}$ *Capacitance,* $C=q/U$ $g\cdot cm^{-2}$	*Absorbed dose (Gy) Specific energy,* W/m $cm^2\cdot s^{-2}$ *Linear mass density* $g\cdot cm^{-1}$	*Associated mass,* m g *Rate of change of flux (magnetic,* $d\Phi/dt$*)* $cm^3\cdot s^{-2}$	*State,* mr $g\cdot cm$	*Moment of inertia,* mr^2 $g\cdot cm^2$	
T^{-1}	$L^{-2}T^{-1}$	*Inverse value for duration of distance* $cm^{-1}\cdot s^{-1}$	*Frequency,* $\nu=1/T$ *Ionizing radiations (Bq)* s^{-1} *Rate of change of angular displacement*	*Speed,* $v=dl/dt$ $cm\cdot s^{-1}$ *Velocity-strength of B and E fields*	*Potential, Voltage,* $U=W/q$ $cm^2\cdot s^{-1}$ *Kinematic viscosity Thermal diffusivity*	*Flux (magnetic,* $\Phi=B\cdot S$*)* $cm^3\cdot s^{-1}$ *Volume speed*	*Rate of volume displacement,* vv $cm^4\cdot s^{-1}$		
T^{0}	*Specific capacitance,* C/m cm^{-2}	*Wave number,* $k=2\pi/\lambda$ cm^{-1} *Wave discreteness density*	*Gravitational constant,* G $g^{-1}\cdot cm^3\cdot s^{-2}$ *Fine-structure constant,* α *Fundamental period,* Δ	*Length,* l cm *Wave radius,* $\lambda/2\pi=c/\omega$	*Surface area,* S cm^2	*Spatial volume,* v cm^3			
T^{1}	$L^{-2}T^{1}$	*Inverse value for speed* $cm^{-1}\cdot s$	*Time,* t *Period,* T s *Volume density flow rate* $g^{-1}\cdot cm^3\cdot s^{-1}$	*Duration of distance,* lt $cm\cdot s$	$L^{2}T^{1}$				
T^{2}	$L^{-2}T^{2}$	$L^{-1}T^{2}$	*Volume density,* v/m $g^{-1}\cdot cm^3$	$L^{1}T^{2}$					
T^{3}	$L^{-2}T^{3}$	*Resistance,* $R=U/I$ $g^{-1}\cdot cm^2\cdot s$	*Resistivity,* $\rho=I/\sigma=RS/l$ *(specific resistance)* $g^{-1}\cdot cm^3\cdot s$						
T^{4}	$L^{-2}T^{4}$	*Inductance,* $L=U/(dI/dt)$ $g^{-1}\cdot cm^2\cdot s^2$							

[1] Kreidik L.G., Shpenkov G.P. *Atomic Structure of Matter-Space*, Geo. S., Bydgoszcz, 2001

[2 Bartini R.O., Kuznetzov P.G. *On the geometry multiplicity and physics multiplicity/Problems and peculiarities of modern scientific methodology*, Sverdlovsk, Academy of Sciences USSR, Ural Scientific Centre, 1978, pp. 55-65

The LT dimensionality of mass $[M]=L^3T^{-2}$ ($[g]=cm^3\cdot s^{-2}$) is interpreted in [2] as "*the constancy of acceleration of cosmic substance of unit volume and average density guarantees the conservation of the standard of mass*". It reminds of Kepler's T^2/R^3 law: "*the ratio of the squares of the periods of any two planets is equal to the ratio of the cubes of their average distances from the sun*"(The Law of Harmonies). Thus Bartini had defined the key for his system.

In the LT system, **Gravitational constant** G is the dimensionless fundamental physical constant just as **Fine-Structure constant** α and **Fundamental Period** $\Delta=2\pi\lg e=2.7287527...$, which are dimensionless in both systems.