Parallel Equations of Motion				
RA Gillmann, 2020-02-08	**Displacement + Time**	**Dischronment + Stance**	**Spatial Angles + Time**	**Temporal Angles + Stance**
Stance / Distance | Time / Distime	Displacement: $\mathbf{s}$ Time | distime: t	Dischronment: $\mathbf{t}$ Stance | distance: s	Spatial angle: $\boldsymbol{\theta} = \mathbf{s}/r$ Temporal arc: t	Temporal angle: $\boldsymbol{\varphi} = \mathbf{t}/q$ Spatial arc: s
Radius | Period	Spatial radius $r = \mathrm{S}/(2\pi) = qv$	Temporal radius $q = \mathrm{T}/(2\pi) = ru$	Angular velocity $\boldsymbol{\omega} = \boldsymbol{\varphi}/t = \boldsymbol{\kappa}/u = 2\pi f = 2\pi/\mathrm{T}$ $= \mathrm{d}\boldsymbol{\theta}/\mathrm{d}t = \mathrm{d}\mathbf{t}/\mathrm{d}\varphi = \mathbf{v}_\perp/r = 1/q$	Wavenumber (angular lenticity) $\boldsymbol{\kappa} = \boldsymbol{\theta}/s = \boldsymbol{\omega}/v = 2\pi h = 2\pi/\lambda$ $= \mathrm{d}\boldsymbol{\theta}/\mathrm{d}s = \mathrm{d}\mathbf{s}/\mathrm{d}\varphi = \mathbf{u}_\perp/q = 1/r$
Velocity | Lenticity | Wavenumber	Cross/Tangential velocity $\mathbf{v}_\perp = \mathrm{d}\mathbf{s}/\mathrm{d}t = \mathbf{r}\times\boldsymbol{\omega} = r/q = \mathrm{S}/\mathrm{T}$	Cross/Tangential lenticity $\mathbf{u}_\perp = \mathrm{d}\mathbf{t}/\mathrm{d}s = \mathbf{q}\times\boldsymbol{\kappa} = q/r = \mathrm{T}/\mathrm{S}$		
Acceleration | Retardation	Radial acceleration $a_\parallel = v^2/r = r\omega^2 = v/q = r/q^2$	Radial retardation $b_\parallel = u^2/q = q\kappa^2 = u/r = q/r^2$	Angular acceleration $\boldsymbol{\alpha} = \mathrm{d}\boldsymbol{\omega}/\mathrm{d}t = \mathbf{a}\mathrm{T}/r$	Angular retardation $\boldsymbol{\beta} = \mathrm{d}\boldsymbol{\kappa}/\mathrm{d}s = \mathbf{b}\mathrm{T}/q$
	Tangential acceleration $\mathbf{a}_\perp = \boldsymbol{\omega}\times\mathbf{v} = \mathrm{T}\mathrm{d}\mathbf{v}/\mathrm{d}t = r\boldsymbol{\alpha}$	Tangential retardation $\mathbf{b}_\perp = \mathrm{T}\mathrm{d}\mathbf{u}/\mathrm{d}s = q\boldsymbol{\beta}$		
Wavelength | Period	$\lambda = \mathrm{S} = 2\pi r = 2\pi vq$	$\mathrm{T} = 2\pi q = 2\pi ur$	$\lambda = \mathrm{S} = 2\pi/\kappa = 1/h$	$\mathrm{T} = 2\pi/\omega = 1/f$
Revolutions | Repetitions Frequency | Circuncy	Revolutions $\mathrm{N} = \theta/(2\pi)$	Repetitions $\mathrm{Z} = \varphi/(2\pi)$	Temporal frequency $f = \omega/(2\pi) = 1/\mathrm{T}$	Spatial frequency (circuncy) $h = \kappa/(2\pi) = 1/\lambda$
Displacement | Dischronment	$\mathbf{s} = \mathbf{s}_0 + \mathbf{v}t$	$\mathbf{t} = \mathbf{t}_0 + \mathbf{u}x$	$\boldsymbol{\theta} = \boldsymbol{\theta}_0 + \boldsymbol{\omega}t$	$\boldsymbol{\varphi} = \boldsymbol{\varphi}_0 + \boldsymbol{\kappa}s$
First Equation of Motion	$\mathbf{v} = \mathbf{v}_0 + \mathbf{a}t$	$\mathbf{u} = \mathbf{u}_0 + \mathbf{b}s$	$\boldsymbol{\omega} = \boldsymbol{\omega}_0 + \boldsymbol{\alpha}t$	$\boldsymbol{\kappa} = \boldsymbol{\kappa}_0 + \boldsymbol{\beta}s$
Second Equation of Motion	$\mathbf{s} = \mathbf{s}_0 + \mathbf{v}_0t + \tfrac{1}{2}\mathbf{a}t^2$	$\mathbf{t} = \mathbf{t}_0 + \mathbf{u}_0s + \tfrac{1}{2}\mathbf{b}s^2$	$\boldsymbol{\theta} = \boldsymbol{\theta}_0 + \boldsymbol{\omega}_0t + \tfrac{1}{2}\boldsymbol{\alpha}t^2$	$\boldsymbol{\varphi} = \boldsymbol{\varphi}_0 + \boldsymbol{\kappa}_0t + \tfrac{1}{2}\boldsymbol{\beta}s^2$
Third Equation of Motion	$\mathbf{v}^2 = \mathbf{v}_0^2 + 2\mathbf{a}\cdot(\mathbf{s} - \mathbf{s}_0)$	$\mathbf{u}^2 = \mathbf{u}_0^2 + 2\mathbf{b}\cdot(\mathbf{t} - \mathbf{t}_0)$	$\boldsymbol{\omega}^2 = \boldsymbol{\omega}_0^2 + 2\boldsymbol{\alpha}\cdot(\boldsymbol{\theta} - \boldsymbol{\theta}_0)$	$\boldsymbol{\kappa}^2 = \boldsymbol{\kappa}_0^2 + 2\boldsymbol{\beta}\cdot(\boldsymbol{\varphi} - \boldsymbol{\varphi}_0)$
Inertia | Facilia	Mass - linear inertia: $m = 1/n$	Etherence-linear facilia: $n = 1/m$	Angular inertia: $\mathrm{I} = mr^2$	Angular facilia: $\mathrm{J} = nq^2$
Momentum | Fulmentum	Momentum: $\mathbf{p} = m\mathbf{v}$	Fulmentum: $\mathbf{q} = n\mathbf{u}$	Angular momentum: $\mathbf{L} = \mathrm{I}\boldsymbol{\omega}$	Angular fulmentum: $\boldsymbol{\Gamma} = \mathrm{J}\boldsymbol{\kappa}$
Kinetic Energy and Lethargy	Kinetic energy: $\mathrm{E_K} = \tfrac{1}{2}mv^2$	Kinetic lethargy: $\mathrm{L_K} = \tfrac{1}{2}nu^2$	Angular energy $\mathrm{E_A} = \tfrac{1}{2}\mathrm{I}\omega^2$	Angular lethargy $\mathrm{L_A} = \tfrac{1}{2}\mathrm{J}\kappa^2$
Newton's Second Law	Force: $\mathbf{F} = m\mathbf{a} = \mathrm{d}\mathbf{p}/\mathrm{d}t$	Release: $\mathbf{R} = n\mathbf{b} = \mathrm{d}\mathbf{q}/\mathrm{d}s$	Torque: $\boldsymbol{\tau} = \mathrm{I}\boldsymbol{\alpha} = \mathbf{s}\times\mathbf{F}$	Strophence: $\boldsymbol{\sigma} = \mathrm{J}\boldsymbol{\beta} = \mathbf{t}\times\mathbf{R}$
Work | Repose	Linear work: $W = \mathbf{F}\cdot\mathbf{s}$	Linear repose: $Y = \mathbf{R}\cdot\mathbf{t}$	Angular work: $W = \boldsymbol{\tau}\cdot\boldsymbol{\theta}$	Angular repose: $Y = \boldsymbol{\sigma}\cdot\boldsymbol{\varphi}$
Power | Indolence	Linear power: $P = \mathbf{F}\cdot\mathbf{v}$	Linear placidity: $Z = \mathbf{R}\cdot\mathbf{u}$	Angular power: $P = \boldsymbol{\tau}\cdot\boldsymbol{\omega}$	Angular placidity: $Z = \boldsymbol{\sigma}\cdot\boldsymbol{\kappa}$