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KNOT THEORETIC CLOSURE FOR A DEFINITE METRIC IN A FINITE TIME

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ABSTRACT

Any topological space endowed with a metric (H, g) for a Euler-Poincare′ polyhedral equation RHS of $\mathcal{X} \equiv 2 - 2g = 0$ for the throat ∂ can twist in and out from the genus by making a knot for a time evolution $\{T \nearrow\} \ll \infty$ for a transition from ΛN to NM.

KEYWORDS: *Genus – Twist – Closure – Knot*

METHODOLOGY

Considering a topological space H with a metric signature (H, g) in the geometries[1],

$$\Omega > 1 \qquad \text{applicable}$$

$$\Omega < 1 \qquad \text{applicable}$$

$$\Omega = 1 \qquad \text{not} - \text{applicable}$$

For a generator of the evolution Δ there exists, over a genus parameterization $\mu > 0$ satisfying Euler Polyhedral equation RHS of $\mathcal{X} = 0$ in a finite evolution of time $\{T \nearrow\}$; the generator Δ takes a finite period for the operation of twisting to complete[2],

$$\int_{\overline{\nearrow}}$$

$$\int_{\overline{\overline{\nearrow}}}$$

Such that for any twist, there exists two operations; the 'in' operation $\overline{\nearrow}$ where the manifold bends by entering into the genus $\overline{\nearrow}$ and the 'out' operation $\overline{\overline{\nearrow}}$; such that $\overline{\nearrow}, \overline{\overline{\nearrow}}$ exists as a subset of $\nearrow$ as $\overline{\nearrow}, \overline{\overline{\nearrow}} \subset \nearrow$ for the evolution period $\{T \nearrow\}$ over a metric representation (H, g) in such a way that there exists a generation of a 'throat' or a 'space arising out of deforming the metric (H, g)' for a structure formulation of that generating throat having an affine value $\partial^{m,n}$ where the representation takes place as[3],

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$$
\begin{gathered}
\partial^{m,n} \equiv \partial^{(H,g),n} \\
\downarrow \\
\partial^{m,n} \equiv \partial^{m,(H,g)} \\
\downarrow \\
\partial^{m,n} \equiv \rho^{-1}\partial^{m,n}
\end{gathered}
$$

For a representation of the $\overline{\nearrow}, \overline{\overline{\nearrow}}$ in a case where there is $\partial^{(H,g),n}$ for the throat to make 'in' and the 'out' – $\partial^{m,(H,g)}$ for a critical knot to establish in the around the genus as ρ^{-1} where for the potential of developing the 'knot' – ρ in a 'inverse representation' ρ^{-1} to structure the whole process of intertwined m, n as a 'orbit parameterization'[4],

$$\sum\nolimits_{m,n}$$

Through a finite temporal evolution $\{T \nearrow\}$ to develop the knot ρ^{-1} with the throat being $\rho^{-1}\partial^{m,n}$ through the evolution[5],

$$
\begin{cases}
\text{for}\Lambda N \xrightarrow{\Lambda\ being\ constant\ for} metric\ (H,g) \cong N \\
\downarrow \\
\downarrow \\
\downarrow \\
\text{for } NM \xrightarrow{\Lambda\ changing\ for\ throat} metric\ \partial^{m,n}\ \exists \begin{cases} \Lambda \xrightarrow{\Lambda\ being\ constant\ for} N \\ \Lambda^{-1} \xrightarrow{\Lambda^{-1}\ changes\ to\ \partial^{m,n}} M \\ \exists\ \mathrm{M} = \mathrm{N}/\nu \times (\mu \times \Gamma) \end{cases} \\
\downarrow \\
\downarrow \\
\downarrow \\
\rho^{-1} = M
\end{cases}
$$

$$\xRightarrow{\qquad\sim\qquad} \Gamma$$

is the point of the initiation of deformation with the value of genus $\mu > 0$ is the multiplier for which the curve ν starts to contract to develop the throat $\partial^{m,n}$ in the resultant formulation of the mapping with $Q \cong M$,

$$\zeta: Q \xrightarrow{\tilde{\Delta}} N/\rho^{-1} \text{ for evolution } \{T \nearrow\} \ll \infty$$

for the generator of the ***knot*** $\tilde{\Delta}\ \exists \rho \approx \nu \times (\mu \times \Gamma)$ and $\rho^{-1} \approx N/\nu \times (\mu \times \Gamma)$ for the throat manifold M in the transformation $\Lambda N \longrightarrow NM$ having the potential for creating the knot $\rho^{-1}\partial^{m,n}$ through a closure of further repetition restricted via the closure index i such that,

$$\coprod_{i \in \tilde{\Delta}} \zeta_i/\sim$$

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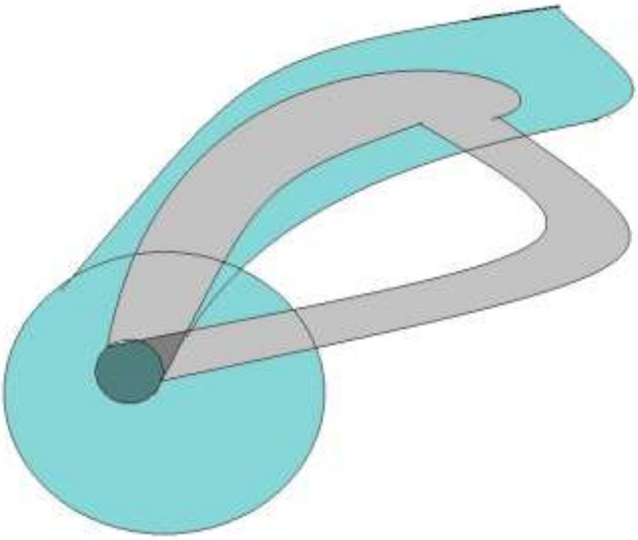

Figure: The representation of the 'in' and 'out' of the topological manifold that closed via a closure thereby with twists from the original manifold having extensions makes a knot of Euler – Poincare characterises 1 as in the Trefoil case of Knot.

REFERENCES

1. *Bhattacharjee, D. (2022a). Establishing equivalence among hypercomplex structures via Kodaira embedding theorem for non-singular quintic 3-fold having positively closed (1,1)-form Kähler potential $i2^{-1}\partial\partial^*\rho$. Research Square. https://doi.org/10.21203/rs.3.rs-1635957/v1*
2. *Bhattacharjee, D. (2022g). Suspension of structures in two-dimensional topologies with or without the presence of $g \geq 1$ genus deformations for canonical $2^2\eta$ stabilizer points. Research Square. https://doi.org/10.21203/rs.3.rs-1798323/v1*
3. *Bhattacharjee, D. (2022l). Non-commutativity Over Canonical Suspension η for Genus g ≥1 in Hypercomplex Structures for Potential ρϕ. Asian Research Journal of Mathematics, 332–341. https://doi.org/10.9734/arjom/2022/v18i11607*
4. *Bhattacharjee, D., Samal, P., Bose, P. N., Behera, A. K., & Das, S. (2023). Suspension η for β bundles in ±1 geodesics in g≥1 genus creations for loops for a Topological String Theory Formalism. TechRxiv. https://doi.org/10.36227/techrxiv.22339732.v1*
5. *Adams, C. C. (2004). The Knot Book: An Elementary Introduction to the Mathematical Theory of Knots. American Mathematical Soc.*