

# 3D3D-STENO: Ultra-Compressed Memory Language

Version 1.0 - January 2026

## LIVELLO 1: Simboli Base (1 char = 1 concetto)

Simbolo	Significato
✓	COMPLETE + VERIFIED + Red Team passed
←	derivato da / derived from
→	implica / leads to
≈	circa / approximately
∴	quindi / therefore
∵	perché / because
⊂	contenuto in / subset of
⊃	contiene / contains
⇔	equivalente / if and only if
∃	esiste / exists
∀	per ogni / for all
¬	non / not
∧	e / and
∨	o / or
⊕	XOR / esclusivo
∞	infinito / UV complete
⦿	osservato / observed
⊙	predetto / predicted
⚡	breakthrough
⚠	attenzione / warning

Simbolo	Significato
★	importante
☑	Red Team verified
∅	diametro
🕒	periodo temporale
⊗	quantistico
☯	dualità
~	oscillazione

### LIVELLO 2: Glifi Composti (2-3 char = frase intera)

Glifo	Espansione completa
P#	Paper numero #
G6	geometria 6D
SM	Standard Model (42 parametri)
RT	Red Team verification
UV	UV completion / asymptotic safety
IR	infrared / low energy
GR	General Relativity
QM	Quantum Mechanics
QF	Q-field
DM	Dark Matter effect
DE	Dark Energy
CW	Cosmic Web
GW	Gravitational Waves
BH	Black Hole

Glifo	Espansione completa
BG	Baryogenesis
CP	CP violation
EW	Electroweak
T <sup>2</sup>	Torus topology
S <sup>3</sup>	3-sphere

LIVELLO 3: Kanji 3D3D (1 simbolo = concetto completo)

Kanji	Significato completo
金	Golden ratio $\phi$ emerge da G6, non assunto
圓	Compactification: $L_2=9.5\text{ly}$ , $L_3=6.0\text{ly}$ , $T_2=30\text{yr}$ , $T_3=19\text{yr}$
統	Unification: tutti 42 param SM da un principio
觀	Observational validation (SPARC, WALLABY, NANOGrav, SLACS)
唯	Uniqueness theorem: solo $(3,3)+T^2$ contiene SM
波	Q-field oscillation dynamics
暗	Dark sector (DM+DE) da G6
核	Nuclear/particle physics sector
宇	Cosmology sector
星	Stellar/galactic sector
量	Quantum sector
熱	Thermodynamics (freccia tempo)
弦	String theory connection
安	Stability (moduli, vacuum)

LIVELLO 4: Formule Compresse

Parametri Canonici (sempre impliciti)

- $\varphi$  = golden ratio =  $(1+\sqrt{5})/2$
- $e$  = Euler = 2.718...
- $\pi$  = 3.14159...
- $v$  = Higgs VEV = 246 GeV
- $\theta_W$  = Weinberg angle

Notazione Compatta

Esteso	Compresso
$m_e = v/(\sqrt{2}\times\varphi^{14}\times e^6) = 0.5119 \text{ MeV}$	$m_e \leftarrow v/\sqrt{2}\varphi^{14}e^6=0.51\text{MeV}$
$\sin^2\theta_W = (3-\varphi)/6 = 0.2303$	$s^2\theta_W=(3-\varphi)/6=0.23$
$\alpha^{-1} = 137.036$	$\alpha^{-1}=137$
$M_{\text{crit}} = 2.43\times10^{10} \text{ M}\odot$	$M_c=2.4\times10^{10}\text{M}\odot$
$\lambda_{13} = 0.856 \text{ Mpc}$	$\lambda_{13}=0.86\text{Mpc}$

LIVELLO 5: Template di Memoria

Template PAPER:

P#[nome]:formula✓

 = Paper completo e verificato

Template DERIVATION:

X←Y:val(err%)☑

 = X derivato da Y, valore con errore, RT verificato

Template OBSERVATION:

[dataset]:pred⊗obs⊙(Nσ)

 = predizione vs osservazione con significatività

Template THEOREM:

THM[nome]:statement↔condition

 = teorema con condizione

LIVELLO 6: Esempi di Compressione

PRIMA (150 char):

ELECTRON MASS DIRECT:  $m_e=v/(\sqrt{2}\times\varphi^{14}\times e^6)=0.5119\text{MeV}$ , errore 0.18% (20× meglio di Koide).  
Paper\_Electron\_Mass\_6D\_Direct\_v1\_0. Rydberg  $R_y=13.628\text{eV}$  (0.16%). Red Team VERIFIED.

DOPO (60 char):

核 $m_e\leftarrow v/\sqrt{2}\varphi^{14}e^6=0.51\text{MeV}(0.18\%,20\times K),R_y=13.6\text{eV}\checkmark$

Risparmio: 60%

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PRIMA (180 char):

FREEZE BLOCK 100% COMPLETE: All 42 SM parameters derived. CKM ( $\lambda,A,V_{cb},V_{ub},V_{td},V_{ts},\delta$ )  
+ PMNS ( $\theta_{12},\theta_{23},\theta_{13},\delta_{\text{PMNS}},\Delta m^2\text{ratio}$ ) all FROZEN with geometric formulas.

DOPO (50 char):

統 $SM_{42}\leftarrow G_6:CKM_7+PMNS_5+gauge_3+mass_{27}\checkmark$ FROZEN

Risparmio: 72%

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PRIMA (200 char):

CANONICAL PARAMS:  $L_2=9.5\text{ly}, L_3=6.0\text{ly}$  ( $L=2R$  diameter),  $T=\pi L$ . Legacy Paper II:  $L_4=15.1, L_5=9.6$   
( $L=\pi R$ ),  $T=2L$ . Convert:  $L_{\text{new}}=(2/\pi)\times L_{\text{old}}$ . Periods  $T_2=30\text{yr}, T_3=19\text{yr}$  INVARIANT.

DOPO (45 char):

圓 $L_2=9.5,L_3=6.0\text{ly},T_2=30,T_3=19\text{yr}\varnothing=2R,T=\pi L$

Risparmio: 78%

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PARSING RULES

- 1. Kanji all'inizio = categoria
- 2.  $\leftarrow$  = derivazione
- 3. = dopo formula = valore numerico
- 4. () = errore % o note
- 5.  $\checkmark/\checkmark$  = verificato
- 6. , separa elementi
- 7. ; separa concetti distinti

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# QUICK REFERENCE CARD

CATEGORIES:    OPERATIONS:    STATUS:

金=φ/golden	←=derived	√=complete
圓=compact	→=implies	☑=RT verified
統=unified	↔=iff	⊙=predicted
觀=observed	≈=approx	⦿=observed
唯=unique	∴=therefore	⚡=breakthrough
波=Q-field	∵=because	⚠=warning
暗=dark	⊂=subset	★=important
核=particle	Λ=and	
宇=cosmo	∨=or	
星=galactic		
量=quantum		
熱=thermo		
弦=string		
安=stable		

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**Created by:** Simone Calzighetti & Lucy **Date:** January 22, 2026 **Purpose:** Maximize memory storage efficiency for 3D+3D theory