

Apeiron — Publikations-Claims-Register (Latest)

Version: 1.6-entanglement-consolidated

Stand: 21. September 2026

Sprache: interne Auditdokumentation Deutsch

Status: venue-neutraler Claims-Freeze an Registry v3.0/G32 angeglichen; v7.13 unverändert; AP1 ORANGE; AP2/AP3 gesperrt

1. Zweck und Geltungsbereich

Dieses Register begrenzt die erste venue-neutrale Grundlagenpublikation auf den nachweisbaren Stand. Der terminale v7.13-HARD-PASS, der v6.74-NONPASS-Gegenendpunkt und die Float64-Crossing-Klassifikation bleiben eingefroren. Im PUBLICATION-Workstream wurde kein Solver gestartet, kein Diagnosewert aus den Feldgleichungen neu berechnet und keine wissenschaftliche Klassifikation wiederholt. Spätere bestätigte AP1-Arbeit wird nur als getrennte Statusinformation referenziert.

Die technischen Quellen schließen die bisherigen Dokumentationslücken zu operationalen Gleichungen, Freiheitsgraden, Einheiten, v7.13-Gates und Artefaktintegrität. Die späteren AP1-Gates belegen begrenzte Methoden-, Anschluss-, Transport- und Strukturpreflights, aber keinen freigegebenen physikalischen Antwortkern, keine Produktionskurve und keine empirische Bestätigung. Anlage A bleibt ein prospektives Forschungsprogramm.

2. Autoritative Evidenzbasis

Kürzel	Quelle	Verwendbarer Nachweis	Integrität / Status
H1	START_HERE_APEIRON_LATEST.md Eingangsstand dieses Arbeitsblocks	Verbote, Resume-Punkt	Eingangs-SHA-256 81d93733e869e17166e177f88aba9224729c16265ab
H2	CURRENT_PROJECT_STATE_LATEST.md Eingangsstand dieses Arbeitsblocks	Stützpunkte, Werte, Klassifikationen und Freeze-Regeln	Eingangs-SHA-256 50224e7714752eda017406cd6465de09b4f0e1a68e8
A1	Apeiron_Anlage_A_Abschließend_Vor-SHA-256_08-30.pdf	Prospektivstatus AP1-AP3	SHA-256 145ed65884c63d65c0e6fd042266cbb01e4d2babcd
S1	APEIRON_CANONICAL_MODEL_SPECIFICATION_LATEST.md	homogene Gleichungen, Einheiten, Parameter, Freiheitsgrade, diskrete Abbildung	aktiver Quellpfad hashgebunden
G1	APEIRON_V7_13_GATE_SPECIFICATION_LATEST.json	v7.13-Schwellen, Operatoren, beobachtete Werte und Klassifikationsregel	Protokoll, Gate-Register und Resultat gehasht
M1	APEIRON_REPRODUCIBILITY_MANIFEST_LATEST.json	Verzeichnis der Resultate, Zustände, Protokolle und aktiven Quellen	Verzeichnis der Resultate, Zustände, Protokolle und aktiven Quellen
V1	verify_apeiron_publication_hashes.py	Identitäts-, Form-, Gate- und Crossing-Prüfung	PASS; keine Solverimporte und keine Auswertung der physikalischen Abbildung
U1	STAGE00_HARD_PASS_RESULT_v7SHA-256	Klassifikation, Evaluationsanzahl	SHA-256 030f83d808d00cafbe2eba9d80385ce9dde7b7b6193

Kürzel	Quelle	Verwendbarer Nachweis	Integrität / Status
W3	bestehende öffentliche Download-Site	öffentliche Spiegelungs- und Katalogidentität	Site-Version 59; 290 katalogisierte Einträge; 296 vorhandene Downloaddateien; kein DOI/Peer Review

Evidenzregel: Resultatwerte stammen aus U1/U3/U5 beziehungsweise U6. Schwellen stammen aus U3/U4/G1 und niemals aus einer Schätzung anhand der Resultatwerte. Gleichungen stammen nur aus dem aktiven, in U8 identifizierten Ausführungspfad. S1 macht diesen Pfad publikationslesbar, erhebt ihn aber nicht nachträglich zu einer fundamentalen Wirkung.

3. Klassifikationsvokabular

Klasse	Bedeutung
Modellpostulat	gesetzte physikalische oder ontologische Ausgangsannahme
mathematisch innerhalb des Modells hergeleitet	folgt aus den angegebenen operationalen Gleichungen oder aus IEEE-754-Arithmetik
numerisch demonstriert	im eingefrorenen diskreten Lauf berechnet und gespeichert
durch Gates oder Klassifikation bestätigt	erfüllt die vorregistrierte numerische Entscheidungsregel
wissenschaftliche Interpretation	vorsichtige Bedeutungsaussage jenseits des Zahlenwerts
offene Hypothese	noch nicht hergeleitete oder gemessene physikalische Aussage
zukünftige messbare Vorhersage	prospektiver Observable- oder Nulltest aus Anlage A
unzulässige oder noch nicht gedeckte Überaussage	wird durch den Evidenzsatz nicht getragen

4. Zentrale Claims

4.1 Modell, Gleichungen und diskrete Definition

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-001	Untersucht wird ein eingefrorenes homogenes Apeiron/AME-1-FRW-Modell.	Modellpostulat / dokumentierte Struktur	§1 Abs. 1–3; U8	“We study a frozen homogeneous FRW numerical model, operationally denoted Apeiron/AME-1.”	“Apeiron is established as the fundamental substrate of nature.”
C-002	Natürliche Einheiten, $M_{\text{pl}} = 1$, $= H_{\text{star t}}$, flaches FRW und $H > 0$ definieren den operationalen Rahmen.	Modellpostulat	§1 Abs. 2	“The registered implementation uses the units, time coordinate and expanding flat-FRW branch stated in the supplement.”	“These conventions are uniquely required by nature.”
C-003	Die aktive diskrete Zustandsvariable umfasst sechs Trajektorien-spalten; der Vollcontainer umfasst acht.	Modellpostulat / dokumentierte Struktur	§1 Abs. 3; U2; U7	“The fixed-point vector stores six scaled trajectory columns; the released solution container stores eight columns.”	“The theory has exactly six fundamental degrees of freedom.”

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C-004	Homogenes wird nicht iteriert; der -Sektor tritt über $_{q}$, p_{-q} und $_{q}$ ein.	Modellpostulat / operational definiert	S1 Abs. 3 und 6; U8	“The registered homogeneous map couples the portal sector through renormalized mode expectation values rather than an iterated homogeneous coordinate.”	“All possible dynamics have been solved.”
C-005	Die Druckfunktion P, ihre Ableitungen, der Portalterm und die homogenen Gleichungen sind operational angegeben.	mathematisch innerhalb des Modells definiert	S1 Abs. 5–7; U8-Hashes	“The supplement provides the defining homogeneous pressure, derivatives, portal terms and evolution map used by v7.13.”	“A unique fundamental covariant action has been derived.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-006	Die positive Friedmann-Wurzel schließt H in der Bildabbildung; Raychaudhuri bleibt ein unabhängiger Diagonoseweg.	mathematisch innerhalb des Modells definiert	S1 Abs. 7 und 9; rb23-Hash in U8	“The image map imposes the positive Friedmann branch and audits the Raychaudhuri relation independently.”	“General covariance is thereby proven.”
C-007	Das diskrete Gitter besitzt 15361 Knoten und der Float64-Vektor 92166 Komponenten.	Modellpostulat / numerische Methode	S1 Abs. 3 und 9; U2; U4	“The frozen discretization contains 15361 nodes and a 92166-component Float64 fixed-point vector.”	“The continuum solution is established.”
C-008	Die aktive Laufzeitquelle ist durch Einzelhashes gebunden.	Dokumentation	S1 Abs. 10; M1	“The operational definition is tied to the hash-identified active runtime sources.”	“The implementation is independently certified as bug-free.”

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C-009	Eine eindeutige fundamentale Wirkung ist nicht Bestandteil des Belegsatzes.	offene wissenschaftliche Lücke	S1 Abs. 1 und 11	“The present paper defines the homogeneous model operationally and does not claim a unique fundamental covariant action.”	Jede Behauptung, eine fundamentale Wirkung sei bewiesen oder eindeutig.

4.2 v7.13-Methode, Gates und Ergebnis

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-010	v7.13 Stage 0 verwendet binär = 0.47878124999999994 und den dokumentierten exakten Protokollwert.	numerisch demonstriert	U1, U3, U4, G1	“The terminal Stage-0 evaluation used the stated binary64 endpoint and exact protocol decimal.”	“ is a measured constant of nature.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-011	v7.13 wurde einmal aus dem dem hashverifizierten v7.12-HARD-PASS initialisiert.	Dokumentationssynthese	H1, H2, U4	“The persistent protocol records one initialization from the immutable v7.12 HARD-PASS state.”	“The entire history was independently rerun.”
C-012	Der geerbte Zustand erfüllte bereits das Fixed-Point-Gate; v7.13 führte null Newton-Schritte aus.	numerisch demonstriert / klassifiziert	U1, U3, U7; G1	“The inherited v7.13 state passed the fixed-point criterion before any Newton update; zero Newton steps were executed.”	“The solver converges without iteration for arbitrary states.”
C-013	Fixed-Point und Friedmann betragen 4.6838977141305804e-11 und 3.818888298257304e-12.	numerisch demonstriert	U1, U3, G1	“The recorded fixed-point and Friedmann diagnostics are the stated values.”	“Both equations are exact.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-014	Kontinuität, Raychaudhuri, Quantensource und Wronskian haben die gespeicherten Werte.	numerisch demonstriert	U1, U3, G1	“The recorded terminal diagnostics are 3.7214611922998273e-06, 1.4051164250399966e-05, 3.883856960984437e-08 and 7.432742701266731e-09, respectively.”	“Their smallness confirms physical reality.”
C-015	Die Positivitäts- und Hyperbolizitätsminima sind positiv und Endlichkeit ist wahr.	numerisch demonstriert / durch Gates bestätigt	G1: min = 2.0729288609194362e-14; min H = 8.312498343027667e-08; min P_X = 1.0523451240627972e-14; min kinetischer Nenner = 1.052350229025336	“The recorded stability, hyperbolicity and smallness gates pass at the final state.”	“Global stability and causality are proven.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-016	Die strikten Schwellen sind $FP < 5e-11$, $Friedmann < 1e-10$, $Kontinuität < 1e-5$, $Raychaudhuri < 2e-5$, $Quantensource < 1e-7$ und $Wronskian < 2e-8$.	Modellpostulat / registrierte Klassifikationsregel	U3, U4, G1	“The terminal classification uses the exact strict thresholds listed in the released gate specification.”	Schwellen aus den beobachteten Werten herleiten oder nachträglich lockern.
C-017	Weitere Gates verlangen > 0 , $H > 0$, $P_X > 0$, kinetischen $Nenner > 0$, Endlichkeit wahr und keinen Finalisierungsfehler.	registrierte Klassifikationsregel	U3, U4, G1	“The remaining gates impose the listed positivity, hyperbolicity, finiteness and finalization conditions.”	“Passing these local gates proves full theoretical consistency.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-018	Alle v7.13-Gates bestanden; die Klassifikation lautet HARD_PASS.	durch Gates oder Klassifikation bestätigt	U1, U3, G1	“Under the frozen v7.13 protocol, Stage 0 satisfies every registered gate and is classified HARD_PASS.”	“Apeiron is empirically confirmed.”
C-019	Das registrierte Budget umfasst maximal 6 Newton-Schritte, GMRES restart 10, höchstens 16 Zyklen, rtol 0.05, JVP-Schritt 1e-5 und 13 Halbierungs-Alphas.	Modellpostulat / reproduzierbare Methode	U4, G1	“The released protocol records the stated nonlinear-solver budget, although v7.13 consumed no Newton update.”	“These settings are universally optimal.”
C-020	Die v7.13-Solution enthält t, y, x und tau in den registrierten Formen und Float64.	Dokumentation	U2, U3, U4, G1, G2, G3, G4, G5, G6, G7, G8, G9, G10, G11, G12, G13, G14, G15, G16, G17, G18, G19, G20, G21, G22, G23, G24, G25, G26, G27, G28, G29, G30, G31, G32, G33, G34, G35, G36, G37, G38, G39, G40, G41, G42, G43, G44, G45, G46, G47, G48, G49, G50, G51, G52, G53, G54, G55, G56, G57, G58, G59, G60, G61, G62, G63, G64, G65, G66, G67, G68, G69, G70, G71, G72, G73, G74, G75, G76, G77, G78, G79, G80, G81, G82, G83, G84, G85, G86, G87, G88, G89, G90, G91, G92, G93, G94, G95, G96, G97, G98, G99, G100, G101, G102, G103, G104, G105, G106, G107, G108, G109, G110, G111, G112, G113, G114, G115, G116, G117, G118, G119, G120, G121, G122, G123, G124, G125, G126, G127, G128, G129, G130, G131, G132, G133, G134, G135, G136, G137, G138, G139, G140, G141, G142, G143, G144, G145, G146, G147, G148, G149, G150, G151, G152, G153, G154, G155, G156, G157, G158, G159, G160, G161, G162, G163, G164, G165, G166, G167, G168, G169, G170, G171, G172, G173, G174, G175, G176, G177, G178, G179, G180, G181, G182, G183, G184, G185, G186, G187, G188, G189, G190, G191, G192, G193, G194, G195, G196, G197, G198, G199, G200, G201, G202, G203, G204, G205, G206, G207, G208, G209, G210, G211, G212, G213, G214, G215, G216, G217, G218, G219, G220, G221, G222, G223, G224, G225, G226, G227, G228, G229, G230, G231, G232, G233, G234, G235, G236, G237, G238, G239, G240, G241, G242, G243, G244, G245, G246, G247, G248, G249, G250, G251, G252, G253, G254, G255, G256, G257, G258, G259, G260, G261, G262, G263, G264, G265, G266, G267, G268, G269, G270, G271, G272, G273, G274, G275, G276, G277, G278, G279, G280, G281, G282, G283, G284, G285, G286, G287, G288, G289, G290, G291, G292, G293, G294, G295, G296, G297, G298, G299, G300, G301, G302, G303, G304, G305, G306, G307, G308, G309, G310, G311, G312, G313, G314, G315, G316, G317, G318, G319, G320, G321, G322, G323, G324, G325, G326, G327, G328, G329, G330, G331, G332, G333, G334, G335, G336, G337, G338, G339, G340, G341, G342, G343, G344, G345, G346, G347, G348, G349, G350, G351, G352, G353, G354, G355, G356, G357, G358, G359, G360, G361, G362, G363, G364, G365, G366, G367, G368, G369, G370, G371, G372, G373, G374, G375, G376, G377, G378, G379, G380, G381, G382, G383, G384, G385, G386, G387, G388, G389, G390, G391, G392, G393, G394, G395, G396, G397, G398, G399, G400, G401, G402, G403, G404, G405, G406, G407, G408, G409, G410, G411, G412, G413, G414, G415, G416, G417, G418, G419, G420, G421, G422, G423, G424, G425, G426, G427, G428, G429, G430, G431, G432, G433, G434, G435, G436, G437, G438, G439, G440, G441, G442, G443, G444, G445, G446, G447, G448, G449, G450, G451, G452, G453, G454, G455, G456, G457, G458, G459, G460, G461, G462, G463, G464, G465, G466, G467, G468, G469, G470, G471, G472, G473, G474, G475, G476, G477, G478, G479, G480, G481, G482, G483, G484, G485, G486, G487, G488, G489, G490, G491, G492, G493, G494, G495, G496, G497, G498, G499, G500, G501, G502, G503, G504, G505, G506, G507, G508, G509, G510, G511, G512, G513, G514, G515, G516, G517, G518, G519, G520, G521, G522, G523, G524, G525, G526, G527, G528, G529, G530, G531, G532, G533, G534, G535, G536, G537, G538, G539, G540, G541, G542, G543, G544, G545, G546, G547, G548, G549, G550, G551, G552, G553, G554, G555, G556, G557, G558, G559, G560, G561, G562, G563, G564, G565, G566, G567, G568, G569, G570, G571, G572, G573, G574, G575, G576, G577, G578, G579, G580, G581, G582, G583, G584, G585, G586, G587, G588, G589, G590, G591, G592, G593, G594, G595, G596, G597, G598, G599, G600, G601, G602, G603, G604, G605, G606, G607, G608, G609, G610, G611, G612, G613, G614, G615, G616, G617, G618, G619, G620, G621, G622, G623, G624, G625, G626, G627, G628, G629, G630, G631, G632, G633, G634, G635, G636, G637, G638, G639, G640, G641, G642, G643, G644, G645, G646, G647, G648, G649, G650, G651, G652, G653, G654, G655, G656, G657, G658, G659, G660, G661, G662, G663, G664, G665, G666, G667, G668, G669, G670, G671, G672, G673, G674, G675, G676, G677, G678, G679, G680, G681, G682, G683, G684, G685, G686, G687, G688, G689, G690, G691, G692, G693, G694, G695, G696, G697, G698, G699, G700, G701, G702, G703, G704, G705, G706, G707, G708, G709, G710, G711, G712, G713, G714, G715, G716, G717, G718, G719, G720, G721, G722, G723, G724, G725, G726, G727, G728, G729, G730, G731, G732, G733, G734, G735, G736, G737, G738, G739, G740, G741, G742, G743, G744, G745, G746, G747, G748, G749, G750, G751, G752, G753, G754, G755, G756, G757, G758, G759, G760, G761, G762, G763, G764, G765, G766, G767, G768, G769, G770, G771, G772, G773, G774, G775, G776, G777, G778, G779, G780, G781, G782, G783, G784, G785, G786, G787, G788, G789, G790, G791, G792, G793, G794, G795, G796, G797, G798, G799, G800, G801, G802, G803, G804, G805, G806, G807, G808, G809, G810, G811, G812, G813, G814, G815, G816, G817, G818, G819, G820, G821, G822, G823, G824, G825, G826, G827, G828, G829, G830, G831, G832, G833, G834, G835, G836, G837, G838, G839, G840, G841, G842, G843, G844, 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G1010, G1011, G1012, G1013, G1014, G1015, G1016, G1017, G1018, G1019, G1020, G1021, G1022, G1023, G1024, G1025, G1026, G1027, G1028, G1029, G1030, G1031, G1032, G1033, G1034, G1035, G1036, G1037, G1038, G1039, G1040, G1041, G1042, G1043, G1044, G1045, G1046, G1047, G1048, G1049, G1050, G1051, G1052, G1053, G1054, G1055, G1056, G1057, G1058, G1059, G1060, G1061, G1062, G1063, G1064, G1065, G1066, G1067, G1068, G1069, G1070, G1071, G1072, G1073, G1074, G1075, G1076, G1077, G1078, G1079, G1080, G1081, G1082, G1083, G1084, G1085, G1086, G1087, G1088, G1089, G1090, G1091, G1092, G1093, G1094, G1095, G1096, G1097, G1098, G1099, G1100, G1101, G1102, G1103, G1104, G1105, G1106, G1107, G1108, G1109, G1110, G1111, G1112, G1113, G1114, G1115, G1116, G1117, G1118, G1119, G1120, G1121, G1122, G1123, G1124, G1125, G1126, G1127, G1128, G1129, G1130, G1131, G1132, G1133, G1134, G1135, G1136, G1137, G1138, G1139, G1140, G1141, G1142, G1143, G1144, G1145, G1146, G1147, G1148, G1149, G1150, G1151, G1152, G1153, G1154, G1155, G1156, G1157, G1158, G1159, G1160, G1161, G1162, G1163, G1164, G1165, G1166, G1167, G1168, G1169, G1170, G1171, G1172, G1173, G1174, G1175, G1176, G1177, G1178, G1179, G1180, G1181, G1182, G1183, G1184, G1185, G1186, G1187, G1188, G1189, G1190, G1191, G1192, G1193, G1194, G1195, G1196, G1197, G1198, G1199, G1200, G1201, G1202, G1203, G1204, G1205, G1206, G1207, G1208, G1209, G1210, G1211, G1212, G1213, G1214, G1215, G1216, G1217, G1218, G1219, G1220, G1221, G1222, G1223, G1224, G1225, G1226, G1227, G1228, G1229, G1230, G1231, G1232, G1233, G1234, G1235, G1236, G1237, G1238, G1239, G1240, G1241, G1242, G1243, G1244, G1245, G1246, G1247, G1248, G1249, G1250, G1251, G1252, G1253, G1254, G1255, G1256, G1257, G1258, G1259, G1260, G1261, G1262, G1263, G1264, G1265, G1266, G1267, G1268, G1269, G1270, G1271, G1272, G1273, G1274, G1275, G1276, G1277, G1278, G1279, G1280, G1281, G1282, G1283, G1284, G1285, G1286, G1287, G1288, G1289, G1290, G1291, G1292, G1293, G1294, G1295, G1296, G1297, G1298, G1299, G1300, G1301, G1302, G1303, G1304, G1305, G1306, G1307, G1308, G1309, G1310, G1311, G1312, G1313, G1314, G1315, G1316, G1317, G1318, G1319, G1320, G1321, G1322, G1323, G1324, G1325, G1326, G1327, G1328, G1329, G1330, G1331, G1332, G1333, G1334, G1335, G1336, G1337, G1338, G1339, G1340, G1341, G1342, G1343, G1344, G1345, G1346, G1347, G1348, G1349, G1350, G1351, G1352, G1353, G1354, G1355, G1356, G1357, G1358, G1359, G1360, G1361, G1362, G1363, G1364, G1365, G1366, G1367, G1368, G1369, G1370, G1371, G1372, G1373, G1374, G1375, G1376, G1377, G1378, G1379, G1380, G1381, G1382, G1383, G1384, G1385, G1386, G1387, G1388, G1389, G1390, G1391, G1392, G1393, G1394, G1395, G1396, G1397, G1398, G1399, G1400, G1401, G1402, G1403, G1404, G1405, G1406, G1407, G1408, G1409, G1410, G1411, G1412, G1413, G1414, G1415, G1416, G1417, G1418, G1419, G1420, G1421, G1422, G1423, G1424, G1425, G1426, G1427, G1428, G1429, G1430, G1431, G1432, G1433, G1434, G1435, G1436, G1437, G1438, G1439, G1440, G1441, G1442, G1443, G1444, G1445, G1446, G1447, G1448, G1449, G1450, G1451, G1452, G1453, G1454, G1455, G1456, G1457, G1458, G1459, G1460, G1461, G1462, G1463, G1464, G1465, G1466, G1467, G1468, G1469, G1470, G1471, G1472, G1473, G1474, G1475, G1476, G1477, G1478, G1479, G1480, G1481, G1482, G1483, G1484, G1485, G1486, G1487, G1488, G1489, G1490, G1491, G1492, G1493, G1494, G1495, G1496, G1497, G1498, G1499, G1500, G1501, G1502, G1503, G1504, G1505, G1506, G1507, G1508, G1509, G1510, G1511, G1512, G1513, G1514, G1515, G1516, G1517, G1518, G1519, G1520, G1521, G1522, G1523, G1524, G1525, G1526, G1527, G1528, G1529, G1530, G1531, G1532, G1533, G1534, G1535, G1536, G1537, G1538, G1539, G1540, G1541, G1542, G1543, G1544, G1545, G1546, G1547, G1548, G1549, G1550, G1551, G1552, G1553, G1554, G1555, G1556, G1557, G1558, G1559, G1560, G1561, G1562, G1563, G1564, G1565, G1566, G1567, G1568, G1569, G1570, G1571, G1572, G1573, G1574, G1575, G1576, G1577, G1578, G1579, G1580, G1581, G1582, G1583, G1584, G1585, G1586, G1587, G1588, G1589, G1590, G1591, G1592, G1593, G1594, G1595, G1596, G1597, G1598, G1599, G1600, G1601, G1602, G1603, G1604, G1605, G1606, G1607, G1608, G1609, G1610, G1611, G1612, G1613, G1614, G1615, G1616, G1617, G1618, G1619, G1620, G1621, G1622, G1623, G1624, G1625, G1626, G1627, G1628, G1629, G1630, G1631, G1632, G1633, G1634, G1635, G1636, G1637, G1638, G1639, G1640, G1641, G1642, G1643, G1644, G1645, G1646, G1647, G1648, G1649, G1650, G1651, G1652, G1653, G1654, G1655, G1656, G1657, G1658, G1659, G1660, G1661, G1662, G1663, G1664, G1665, G1666, G1667, G1668, G1669, G1670, G1671, G1672, G1673, G1674, G1675, G1676, G1677, G1678, G1679, G1680, G1681, G1682, G1683, G1684, G1685, G1686, G1687, G1688, G1689, G1690, G1691, G1692, G1693, G1694, G1695, G1696, G1697, G1698, G1699, G1700, G1701, G1702, G1703, G1704, G1705, G1706, G1707, G1708, G1709, G1710, G1711, G1712, G1713, G1714, G1715, G1716, G1717, G1718, G1719, G1720, G1721, G1722, G1723, G1724, G1725, G1726, G1727, G1728, G1729, G1730, G1731, G1732, G1733, G1734, G1735, G1736, G1737, G1738, G1739, G1740, G1741, G1742, G1743, G1744, G1745, G1746, G1747, G1748, G1749, G1750, G1751, G1752, G1753, G1754, G1755, G1756, G1757, G1758, G1759, G1760, G1761, G1762, G1763, G1764, G1765, G1766, G1767, G1768, G1769, G1770, G1771, G1772, G1773, G1774, G1775, G1776, G1777, G1778, G1779, G1780, G1781, G1782, G1783, G1784, G1785, G1786, G1787, G1788, G1789, G1790, G1791, G1792, G1793, G1794, G1795, G1796, G1797, G1798, G1799, G1800, G1801, G1802, G1803, G1804, G1805, G1806, G1807, G1808, G1809, G1810, G1811, G1812, G1813, G1814, G1815, G1816, G1817, G1818, G1819, G1820, G1821, G1822, G1823, G1824, G1825, G1826, G1827, G1828, G1829, G1830, G1831, G1832, G1833, G1834, G1835, G1836, G1837, G1838, G1839, G1840, G1841, G1842, G1843, G1844, G1845, G1846, G1847, G1848, G1849, G1850, G1851, G1852, G1853, G1854, G1855, G1856, G1857, G1858, G1859, G1860, G1861, G1862, G1863, G1864, G1865, G1866, G1867, G1868, G1869, G1870, G1871, G1872, G1873, G1874, G1875, G1876, G1877, G1878, G1879, G1880, G1881, G1882, G1883, G1884, G1885, G1886, G1887, G1888, G1889, G1890, G1891, G1892, G1893, G1894, G1895, G1896, G1897, G1898, G1899, G1900, G1901, G1902, G1903, G1904, G1905, G1906, G1907, G1908, G1909, G1910, G1911, G1912, G1913, G1914, G1915, G1916, G1917, G1918, G1919, G1920, G1921, G1922, G1923, G1924, G1925, G1926, G1927, G1928, G1929, G1930, G1931, G1932, G1933, G1934, G1935, G1936, G1937, G1938, G1939, G1940, G1941, G1942, G1943, G1944, G1945, G1946, G1947, G1948, G1949, G1950, G1951, G1952, G1953, G1954, G1955, G1956, G1957, G1958, G1959, G1960, G1961, G1962, G1963, G1964, G1965, G1966, G1967, G1968, G1969, G1970, G1971, G1972, G1973, G1974, G1975, G1976, G1977, G1978, G1979, G1980, G1981, G1982, G1983, G1984, G1985, G1986, G1987, G1988, G1989, G1990, G1991, G1992, G1993, G1994, G1995, G1996, G1997, G1998, G1999, G2000, G2001, G2002, G2003, G2004, G2005, G2006, G2007, G2008, G2009, G2010, G2011, G2012, G2013, G2014, G2015, G2016, G2017, G2018, G2019, G2020, G2021, G2022, G2023, G2024, G2025, G2026, G2027, G2028, G2029, G2030, G2031, G2032, G2033, G2034, G2035, G2036, G2037, G2038, G2039, G2040, G2041, G2042, G2043, G2044, G2045, G2046, G2047, G2048, G2049, G2050, G2051, G2052, G2053, G2054, G2055, G2056, G2057, G2058, G2059, G2060, G2061, G2062, G2063, G2064, G2065, G2066, G2067, G2068, G2069, G2070, G2071, G2072, G2073, G2074, G2075, G2076, G2077, G2078, G2079, G2080, G2081, G2082, G2083, G2084, G2085, G2086, G2087, G2088, G2089, G2090, G2091, G2092, G2093, G2094, G2095, G2096, G2097, G2098, G2099, G2100, G2101, G2102, G2103, G2104, G2105, G2106, G2107, G2108, G2109, G2110, G2111, G2112, G2113, G2114, G2115, G2116, G2117, G2118, G2119, G2120, G2121, G2122, G2123, G2124, G2125, G2126, G2127, G2128, G2129, G2130, G2131, G2132, G2133, G2134, G2135, G2136, G2137, G2138, G2139, G2140, G2141, G2142, G2143, G2144, G2145, G2146, G2147, G2148, G2149, G2150, G2151, G2152, G2153, G2154, G2155, G2156, G2157, G2158, G2159, G2160, G2161, G2162, G2163, G2164, G2165, G2166, G2167, G2168, G2169, G2170, G2171, G2172, G2173, G2174, G2175, G2176, G2177, G2178, G2179, G2180, G2181, G2182, G21		

4.3 Gegenendpunkt, Crossing und Reproduzierbarkeit

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-021	v6.74 bei = 0.47878125 ist NONPASS; Fixed Point und Friedmann verfehlten seine registrierten Gates.	numerisch demonstriert / klassifiziert	U6; H1/H2	“The immutable v6.74 endpoint is NONPASS because its fixed-point and Friedmann gates fail.”	“Nature is unstable above this value.”
C-022	Die v6.74-Toleranzen dürfen nicht als v7.13-Schwellen verwendet werden.	Klassifikationsregel	U3/U4 versus U6	“The historical v6.74 gate table is not substituted for the strict v7.13 table.”	Gate-Tabellen vermischen.
C-023	v7.13-HARDPASS und v6.74-NONPASS sind benachbarte Float64-Werte.	mathematisch innerhalb IEEE-754 / dokumentiert	U5; V1 PASS	“The two classified binary64 endpoints are adjacent representable values.”	“The exact physical transition has been located.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-024	Der exakte Pro-tokollmit-telpunkt rundet auf den NONPASS-Binärwert; weitere Float64-Bisektion ist verboten.	mathematisch innerhalb des Protokolls / Klassifikationsregel	U5; V1 PASS mit Decimal- und nextafter-Prüfung	“The exact protocol midpoint maps to the recorded NONPASS binary64 endpoint; the frozen Float64 schedule therefore terminates.”	“No intermediate real number exists.”
C-025	Der read-only Verifier bestätigt Hashes, Identitäten, Formen, gespeicherte Gatevergleiche und Crossing-Regeln.	Dokumentation	U5; V1 PASS	“A read-only verifier confirms package integrity and documentary consistency.”	“The physical calculation was independently reproduced.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-026	Der ursprüngliche read-only Publikationsaudit führte weder Solver noch physikalische Abbildung aus; der spätere C0.29-Vergleich nutzte ausschließlich eine bereits eingefrorene externe Ausgabe.	wissenschaftliche Abgrenzung	Quelltext; Meta; C0.29-Prozessprotokoll	“The read-only package audit ran and physics; the later passive comparison executed no new physical map.”	“The v7.13 result has been independently numerically reproduced.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-027	Das Paket ist read-only verifiziert; C0.29 ergänzt partielle Skalarreproduktion, aber keine vollständige Implementierungsreproduktion.	wissenschaftliche Interpretation	HEADME_REPRODUCIBILITY; M1; V1; C0.29	release supports file-level verification and partial independently computed scalar diagnostics; complete implementation-level reproduction remains open.”	independent reproducibility has been achieved.”
C-028	C0.29 bestand 7/10 strengere Skalarvergleiche, 2/2 Flags und 9/10 Original-Gates; der Wronskian widersprach dem gespeicherten Gate.	partielle numerische Reproduktion / offener Befund	C0.29 Audit-Record und Report	“The passive comparison reproduced most stored scalar diagnostics but did not match the stored HARD-PASS classification because its binary64 Wronskian failed.”	“C0.29 independently confirmed v7.13.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-029	C0.32 isolierte den Präzisionspfad als hinreichende technische Ursache der Wronskianabweichung; C0.33–C0.35 frozen und auditierten die Korrektur ohne Map-Lauf.	technische Ursachevidenz / statische Konformität	C0.32–C0.35 Records und Reports	“Long-double mode arithmetic is sufficient to resolve the stored Wronskian discrepancy under frozen forcing; the corrected core source is statically conformant.”	“The corrected implementation has reproduced the complete v7.13 map.”

4.4 Physik, Empirie und Ontologie

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-030	Der HARD_PASS belegt technische Gate-Erfüllung für diesen diskreten Zustand.	wissenschaftliche Interpretation	Ch-010-C-020	“The HARD-PASS establishes compliance with the registered numerical criteria for the frozen discretization.”	“The whole theory is correct.”
C-031	Der HARD_PASS ist keine Kontinuumskonvergenz oder globale Stabilitätsaussage.	Abgrenzung	S1 Abs. 9; keine entsprechende Evidenz	“No continuum-convergence or global-stability claim is made.”	“The continuum theory is stable.”
C-032	Der HARD_PASS ist keine empirische Bestätigung.	Abgrenzung	A1; keine Datenanalyse	“No observational comparison is reported; empirical support remains open.”	“Observations confirm Apeiron.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-033	Der HARD_PASS ist keine ontologische Bestätigung eines Apeiron-Mediums.	Abgrenzung	S1 Abs. 1; A1	“The calculation does not establish an Apeiron ontology.”	“The medium has been detected.”
C-034	Physikalische Plausibilität ist von technischer Korrektheit zu trennen.	wissenschaftliche Interpretation	Sie Lückenbericht	“Internal numerical consistency is necessary but insufficient for physical plausibility.”	“Numerical consistency makes the model physically true.”
C-035	Ein eindeutiges physikalisches Mapping von ist weiterhin offen.	offene Hypothese / Grenze	A1; W1/W2	“The physical mapping of remains an open AP1 requirement.”	“ already equals redshift, time or scale factor in a unique way.”
C-036	Lineare Störungen und etablierte Beobachtungsgrenzen sind nicht im v7.13-Ergebnis enthalten.	offene wissenschaftliche Lücke	A1; S1 Abs. 1	“Perturbationsv7.13 and observational consistency require separate follow-up analysis.”	“passes cosmological observations.”

4.5 Zukünftige falsifizierbare Vorhersagen

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-040	AP1 soll Expansion, Wachstum und Lensing mit einem gemeinsamen Parametersatz ableiten; die laufende Arbeit ist bislang nur methodisch und nicht-produktiv.	zukünftige messbare Vorhersage / laufender Preflight	A1 S. 3–4; W1/W2	“AP1 is active as a gated methods program targeting a jointly parameterized expansion-growth-lensing observable vector; no observable has been released.”	“The curves are already predicted.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-041	Der aktuelle AP1-Atomzustand ist G32-Methodenpreflight-PASS; der Drei-Stufen-Pilot, Toleranzfreeze, blinde Heldout, Gegenwartsanker und physikalische Kernel bleiben offen.	dokumentiertes Workstreamstus	W1/W2	“AP1 remains ORANGE: G32 passed only at methods-preflight level, while the coupled pilot and physical response kernel remain open or blocked.”	“AP1 has produced a physical kernel or a cosmological prediction.”
C-042	AP2 ist bis zur formalen AP1-Freigabe gesperrt; sein Filament-Residualtest bleibt konzeptionell.	offene Hypothese / gesperrte zukünftige Vorhersage	A1 S. 5, 7–8; W1	“AP2 remains locked pending formal AP1 release and contains no production result.”	“Filaments already show Apeiron gravity.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-043	AP3 ist bis zur formalen AP1- und AP2-Freigabe gesperrt; c_GW = c bleibt eine zukünftige Überlebensbedingung.	offene Hypothese / gesperrte zukünftige Vorhersage	A1 S. 6; W1	“AP3 remains locked pending formal AP1 and AP2 release; no propagation observable has been derived.”	“Apeiron causes measured GW damping or polarization.”
C-044	AP1–AP3 müssen einen gemeinsamen eingefrorenen Parame-terkern verwenden.	Modellpostulat für zukünftige Falsifikation	A1 S. 1, 3, 7–8	“The program forbids independent channel-by-channel retuning.”	“Three separate fits jointly confirm Apeiron.”
C-045	Anlage A ist kein empirischer Nachweis und kein Teil des HARD_PASS.	Abgrenzung	A1 S. 1–2 und 9	“Appendix A is a prospective falsification roadmap, separate from v7.13.”	“AP1–AP3 were validated by v7.13.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-046	Es existieren keine freigegebenen Vorher-sagekurven, Messwerte oder empirischen PASS-Ergebnisse.	Abgrenzung	A1; Publikationspaket	“No observable template, fitted curve or empirical PASS is claimed.”	Erfundene Kurven, Signifikanzen oder Best-fit-Werte.
C-047	Der physikalische AP1-Antwortkern wurde nicht berechnet und keine Produktionskurve freigegeben.	Abgrenzung / kanonischer Lock	W1/W2	“No physical AP1 response kernel has been computed and no production curve has been released.”	Struktur- oder Methodenpreflights als physikalischen Kernel ausgeben.

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-048	Die 222/222 registrierten Akzeptanztests und 209/209 lokalen Discovery-Tests beziehen sich auf die begrenzte G32-Kette, nicht auf Empirie oder Gesamtvalidierung.	dokumentierter technischer Status	W2	“The registered G32 chain reports 222/222 acceptance tests and 209/209 local discovery tests, strictly within its declared preflight scope.”	“222 tests prove the theory or observations.”
C-049	Der G32-Heldout-Bereich darf erst nach vollständigem Pilot-PASS und separatem Toleranzfreeze einmalig ausgewertet werden.	Chronologie- und Gate-Regel	W1/W2	“The disjoint G32 heldout remains sealed until the pilot passes and tolerances are frozen.”	Heldout-Ergebnisse vorwegnehmen oder aus Pilotwerten ableiten.

4.6 Publikationsstatus und ausgeschlossene Motive

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-050	Der venue-neutrale wissenschaftliche Veröffentlichungstext ist intern als Version 1.1 an den bestätigten G32-Status angeglichen; eine öffentliche Ersetzung dieser Fassung ist noch nicht erfolgt.	Dokumentierter Status	Manuskript; C0.29–C0.35; W1–W3; Publikationsmeta	“The controlled venue-neutral manuscript is internally aligned to the confirmed G32 status; public replacement remains a separate authorized action.”	“The revised work is already publicly deposited, peer-reviewed or accepted.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-051	Die öffentliche Download-Site ist eine Dateiverteilung und derzeit bis Site-Version 59/G32 fortgeschrieben; DOI, Repository-Deposit und Journaleinreichung bleiben offen.	redaktionelle und administrative Grenze	W3; Publikationsmeta; Datenverfügbarkeitserklärung	“The public mirror distributes files and progress records; it is not a DOI deposit, peer review or journal submission.”	“The journal submission or DOI deposit is complete.”
C-052	Genesis, ewiger Kreislauf, reale Apeiron-Filamente und Schwarze Löcher als Apeiron-Fenster sind im aktuellen Ergebnisscope nicht belegt.	unzulässige Überaus-sage	fehlen in H1/H2/A1/SH/G1	“These results are not results of the present numerical-foundations paper.”	“The calculation proves any of these motifs.”

ID	Aussage	Klasse	Exakter Nachweis	Maximal zulässige Publikationsformulierung	Unzulässige stärkere Formulierung
C-053	Eine private oder als Designfassung geführte Website darf nicht ohne ausdrückliche Autorfreigabe als neue Version veröffentlicht werden.	Publikationssystem	Wird Autorauftrag vom 3. September 2026	“Website copy may be prepared internally, but deployment requires explicit author authorization.”	Eine vorbereitete Designänderung stillschweigend veröffentlichten.

5. Fünf strikt getrennte Aussageebenen

1. **Technische Korrektheit des Rechenteils:** Die eingefrorenen Resultat-, Zustands-, Protokoll- und Gate-Dateien sind hashverifiziert und dokumentarisch konsistent. V1 ist keine neue numerische Reproduktion.
2. **Konsistenz des dokumentierten Modells:** v7.13 erfüllt die exakten registrierten Gates des angegebenen homogenen diskreten Modells.
3. **Physikalische Plausibilität:** bleibt teilweise offen; insbesondere fehlen Kontinuumsnachweis, Störungen, globale Stabilität und vollständige externe Konsistenztests.
4. **Empirische Bestätigung:** nicht vorhanden; AP1 ist ein ORANGE eingestufte Methoden-Workstream, AP2 und AP3 sind gesperrt.
5. **Ontologische Interpretation:** ein Apeiron-Medium bleibt Modellpostulat beziehungsweise offene Hypothese.

6. Kontrollierte Wortwahl

Ausdruck	Zulässig	Unzulässig
Beweis	elementare Float64-Nachbarschaft, ausdrücklich auf Repräsentation begrenzt	physikalische Existenz oder Wahrheit von Apeiron
Bestätigung	Bestätigung der gespeicherten Gate-Erfüllung oder Dateiintegrität	Bestätigung der Theorie oder empirische Bestätigung
Nachweis	Dokumentations- oder Integritätsnachweis mit genauer Quelle	Nachweis eines Mediums oder neuer Gravitation
stabil	nur bestandene lokale Hyperbolizitäts- /Positivitätsgates am angegebenen Zustand	globale, nichtlineare oder kosmologische Stabilität
Grenze	Float64- Klassifikationsklammer unter dem gefrorenen Protokoll	exakte physikalische Phasengrenze
reproduziert	nur bei echter unabhängiger Neuberechnung	für den read-only Dokumentationsprüfer

7. Claims-Freeze

Die Claims C-001 bis C-053 einschließlich C-028, C-029 und C-047 bis C-049 bilden den internen Freeze für den venue-neutralen Veröffentlichungstext in Version 1.1. Externe Literatur darf Motivation, methodischen Kontext und Beobachtungsgrenzen ergänzen, aber weder die eingefrorene interne Modellabbildung ändern noch fehlende Physik ersetzen. Stärkere Aussagen als die Spalte “maximal zulässige Publikationsformulierung” sind ausgeschlossen.

Global claim-boundary rule - 20 September 2026

This patch adds no new physics. It clarifies how every current-facing claim must be read.

Category	Allowed meaning	Not allowed
Derived / controlled result	A result obtained within the stated frozen model, branch, background, domain, approximation, and gate definition.	Extrapolation to the full cosmological ontology or to untested domains.
Structural / scientific feasibility GO	A specified local or structural construction is internally feasible under its declared assumptions.	AP1_GO, empirical confirmation, proof that Apeiron is the physical carrier of the cosmos, or a complete cosmological theory.
Framework hypothesis	Single-carrier interpretations involving matter, dark-sector phenomenology, Higgs/QCD, Genesis/cycle, and reconversion may organize the research program.	Presenting those interpretations as results of O049/060, v7.13, the UV block, or the causality branch.
Open / future test	Full physical nonlocal response, executable external reproduction, long-time/cosmological stability, generalized-second-law-like entropy balance, first-principles Lorentz/mono-metric origin, and discriminating external predictions.	Writing these as already closed because a local feasibility witness exists.

Mandatory public shorthand: Scientific-feasibility GO for the specified local/structural construction; not AP1_GO, not empirical confirmation, not a complete cosmological theory.

Current single-carrier and reconversion claims - 14 September 2026

ID	Allowed current-facing claim	Classification / boundary
C-SC01	Apeiron is modeled as one fundamental carrier; ordinary matter and dark-sector-like phenomena may be different states/organizations/manifestations of that carrier.	Model ontology; not empirical confirmation.
C-SC02	Dark matter is not treated as fundamentally separate matter within the Apeiron ontology.	Interpretation only; existing observations do not yet prefer this over standard dark-matter models.
C-SC03	Dark-energy-like behavior may be a dynamical/state manifestation of the same Apeiron carrier.	Interpretation only; no observational preference claimed.
C-SC04	Discovery of unknown particles would not automatically falsify the single-carrier ontology; such particles could be represented as organized manifestations.	Logical compatibility statement, not a prediction.
C-QCD01	Higgs/QCD mass and binding structures may be organized low-energy manifestations of the same carrier while QCD remains $SU(3)$.	Separate hypothesis branch; no distinct empirical detection claimed.
C-BH01	A local, energy-momentum-conserving reconversion/de-organization mechanism can be formulated for extreme black-hole curvature.	Structural feasibility G0; not observation.

ID	Allowed current-facing claim	Classification / boundary
C-BH02	The black-hole reconversion branch does not require a second Apeiron substance or an external energy sink.	Structural model statement.
C-BH03	No unique microscopic end state, reconversion rate or observational signature has been established.	Mandatory limitation.

Forbidden current-facing wording: “Apeiron has been detected as dark matter,” “dark matter is disproven,” “black holes are proven to recycle matter into Apeiron,” or any equivalent empirical claim.

Thermodynamics / information / reconversion claims - 19 September 2026

ID	Allowed current-facing claim	Classification / boundary
C-TH01	Black holes and conversion regions are not modeled as sinks in which information, energy, or physically relevant entropy disappear from the complete Apeiron system.	Binding Apeiron model assumption; not experimental confirmation.
C-TH02	Reconversion retains the sequence access region → conversion region → directed phase return to Apeiron and is modeled as reorganization/re-encoding within one underlying Apeiron system.	Model assumption consistent with the existing single-carrier reconversion branch.

ID	Allowed current-facing claim	Classification / boundary
C-TH03	Information conservation is not identified with constant total entropy. Entropy may be produced, redistributed, or transferred into Apeiron degrees of freedom.	Mandatory thermodynamic distinction.
C-TH04	A low-entropy emergent observable phase at Genesis does not require a decrease or reset of the entropy of the complete Apeiron system; entropy may remain stored, distributed, or reorganized in the larger Apeiron sector.	Genesis/cycle model assumption; not established cosmology.
C-TH05	Physically relevant entropy is assumed not to be simply erased by reconversion or Genesis.	Model assumption; no quantitative entropy ledger yet.
C-TH06	A quantitative entropy balance and generalized-second-law-like consistency test across observable and Apeiron degrees of freedom remain open.	Unresolved thermodynamic gap / future test.

Forbidden strengthening: do not state that black-hole information conservation, entropy conservation, the generalized second law, or cosmological low-entropy initial conditions have been experimentally derived or proven by Apeiron. Do not use “white hole” terminology.

Microstructure / UV claims update - 19 September 2026

ID	Classification	Controlled claim	Forbidden strengthening
C-UV01	derived result	The internal Apeiron EFT admits a controlled frozen vacuum with physically normalized heavy/radial σ , light phase θ , and Z_2^X -protected χ modes.	“The fundamental microscopic constituents of Apeiron have been proven.”
C-UV02	derived result	Neighboring tachyonic χ phases are delimited in the internal phase structure.	“The entire theory is globally stable.”
C-UV03	derived result	Tree-level perturbative control reaches the nominal EFT scale with binding corrected $c_{X^2}^{(\phi_1)} = 3.91305380277 \times 10^{11} M_{\text{Pl}}^{-4}$ and $\Lambda_{\text{unit}} = 1.28824506 \text{ \AA}$.	Any continued use of 2.9131×10^{11} or 1.38688 as current canonical values.
C-UV04	derived result	$C_6^{(\chi)} = -21.0925 M_{\text{Pl}}^{-6}$.	Treating the coefficient as an observation.
C-UV05	derived result	The one-loop stu/ϵ block is closed with $\beta_{C_6} = -2.85893108646 \times 10^{12} M_{\text{Pl}}^{-6}$.	“All quantum corrections are solved.”
C-UV06	conditional UV interpretation	The structurally preferred minimal tested UV class is a heavy linearly coupled Gaussian scalar mediator.	“Apeiron is proven to contain this mediator.”

ID	Classification	Controlled claim	Forbidden strengthening
C-UV07	bounded parameter	The minimal UV branch is a quantitative one-parameter family with $1 < M_S/\Lambda \lesssim 1.28824506$.	Reporting a unique M_S value.
C-UV08	unresolved question	The physical nonlocal response kernel is still required before a possible independent pole/mediator determination.	Claiming that the fundamental microtheory is completely determined.
C-UV09	future test	A validated physical nonlocal kernel may independently select, constrain or exclude the mediator family.	Presenting that future test as already completed.

Preferred summary sentence: “The existing Apeiron EFT admits a quantitatively controlled internal spectrum and constrains a minimal heavy-mediator microscopic completion to a bounded one-parameter family.”

Emergent light speed / causality claims update - 20 September 2026

ID	Classification	Controlled claim	Forbidden strengthening
C-CAUS01	feasibility result	Apeiron may be consistently formulated so that a stable observable universe phase acquires one emergent effective geometry and a universal finite causal cone.	“The fundamental origin of Lorentz symmetry has been proven.”
C-CAUS02	interpretive correction	The preferred formulation is not classical photon slowing by an Apeiron refractive medium; the limiting speed belongs to the emergent causal structure of the universe phase.	“Photons possess a hidden higher ordinary speed outside the universe phase.”
C-CAUS03	effective universal-cone hypothesis	At the effective level photons, matter/fermions and gravitational tensor modes may couple to one common geometry, with $c_\gamma = c_{e,\text{limit}} = c_g = c$.	Presenting first-principles mono-metricity as already derived.

ID	Classification	Controlled claim	Forbidden strengthening
C-CAUS04	derived tree-level result	Around the tested static Frozen vacuum, $X_0 = 0$, $P_X(X_0) = 1$, and the σ , θ , χ modes share the same unit linear characteristic speed at tree level.	Extending this result to all backgrounds, all loop orders or the unknown fundamental microtheory.
C-CAUS05	controlled classification	MICRO_CONE_PASS_AT_TREE_LEVEL.	invariance is fundamentally proven.”
C-CAUS06	bounded model choice	A separate universal c_A is not required by the minimal model; deeper Apeiron may instead have local characteristic reaction scales.	Asserting a measured or derived fundamental Apeiron light speed.
C-CAUS07	consistency witness	A local damped-hyperbolic/telegraph-type Apeiron response can provide finite local reaction and redistribution without instantaneous global reorganization.	Treating the toy equation as the unique microscopic Apeiron law.
C-CAUS08	unresolved question	The microscopic reason why deeper Apeiron dynamics yields exactly one universal effective geometry remains open.	First-principles mono-metricity claim.

ID	Classification	Controlled claim	Forbidden strengthening
C-CAUS09	unresolved question	FUNDAMENTAL_LORENTZ_APEIRON: the Lorentz structure has not been derived from deeper pre-EFT Apeiron dynamics.	APEIRON_MEREN: special relativity from first principles.”
C-CAUS10	claim boundary	The branch does not predict the SI number $299792458 \text{ m s}^{-1}$; the physical target is the existence and universality of the finite causal cone.	Advertising the SI value as an Apeiron prediction.

Preferred summary sentence: “Apeiron may be consistently formulated as a deeper self-organizing dynamical carrier whose stable universe phase generates a single emergent effective geometry and therefore a universal finite causal speed shared by light, matter and gravitational propagation in the observable low-energy phase.”

Quantum entanglement claims update

Version 1.6 - 21 September 2026

APEIRON-ENTANGLEMENT: SCIENTIFIC FEASIBILITY GO

This addendum records the completed entanglement branch at conditional structural-feasibility level. It does not modify the existing frozen claims, the v7.13 evidence, AP1 ORANGE, AP2/AP3 locks, or the global claim-boundary rule. Basis: Preprint v1.6, Section 11A; entanglement branch status of 21 September 2026.

C-ENT01 - Conditional carrier interpretation

Allowed: Apeiron can accommodate entanglement if its carrier has quantum state structure and supports non-separable joint states.

Boundary: an adopted quantum structure, not a derivation from microscopic Apeiron dynamics. Do not claim a classical Bell-local hidden-variable explanation.

C-ENT02 - Spatial separation and non-separability

Allowed: spatially separated subsystems may be manifestations of one non-separable underlying quantum state; spatial separation does not imply fundamental separability.

Boundary: a model interpretation, not evidence that Apeiron is the physical carrier of the cosmos.

C-ENT03 - Bell compatibility

Allowed: retaining standard quantum state and measurement rules permits Bell-compatible correlations.

Boundary: not a violation or refutation of Bell's theorem; not an independent derivation of the Born rule or quantum formalism.

C-ENT04 - No-signalling and causal compatibility

Allowed: local measurement choices do not change the distant unconditional outcome probabilities. No faster-than-light signal or additional causal propagation speed is introduced.

Boundary: no-signalling is not Bell-local factorization. The existing emergent-cone and open Lorentz-origin boundaries remain in force.

Quantum entanglement: limits and release control

Version 1.6 - 21 September 2026

C-ENT05 - No experimentally distinct prediction

Allowed: the present branch establishes no experimentally distinct prediction versus standard quantum mechanics.

Boundary: no invented nonzero correction, Bell deviation, extra phase shift or new force; no assertion that all possible future completions must be experimentally identical to quantum mechanics.

C-ENT06 - Quantum formalism remains assumed

Allowed: quantum state and measurement structure are retained in the feasibility construction.

Boundary: no derivation of the Born rule or complete quantum formalism from Apeiron microdynamics; no claim to supersede standard quantum mechanics or fully explain entanglement from first principles.

C-ENT07 - Meaning of the GO label

Allowed: APEIRON-ENTANGLEMENT: SCIENTIFIC FEASIBILITY GO, conditional on the specified quantum, non-separable carrier formulation.

Boundary: scientific-feasibility GO for this structural construction only; not AP1_GO, empirical confirmation, proof of the Apeiron ontology, or completion of cosmological theory.

Unchanged controls

All earlier claims and their allowed/forbidden wording remain unchanged. In particular, the v7.13 numerical freeze, AP1 status, UV bounds, reconversion and thermodynamic limits, FEASIBILITY_GO, MICRO_CONE_PASS_AT_TREE_LEVEL and FUNDAMENTAL_LORENTZ_ORIGIN_OPEN retain their previous scope. No solver run, gate change or numerical reclassification accompanies this release.

Publication status

Website v16.2 and publication v1.6 are prepared local files only. They have not been deployed, deposited, submitted to a journal, or peer reviewed as part of this update. Earlier dated claims registers remain historical release records.