

ceŸ©3

AvBb÷vBtbi Avtcw¶K ZĖj Ges gnwetkji eμZv

wbDUtbi gnvKIŸmŸt KvŸj i tKvb Dtj EwQj bv| KvŸj i welqW Avmtj tek „i“ZpYŸ gnvKtŸlŸ Uvb eŸSevi Rb“ wbDUtbi mŸB hŸó, wKŠ’tKD hw` cŸkKtŸb th, GKwU eŸ“`Ÿi wŸZ Ab“ GKwU eŸ“i Uvb ev AvKIŸ AbŸfe KiŸtZ KZUv mgq j vMte, Zvntj B wKŠ’wec` ! wbDUtbi gnvKIŸbqg G cŸkŸe mWVK DĖi wŸtZ AcviM| eŸvcviW AvŸiKUz cwiŸvi Kiv hvK| Avgiv Rwb th, cW_ex bŸtgi AvgŸi i GB MhWU Abei Z NŸi Ptj tQ mŸhŸ Pvi wŸtK, 29,770 wqUvi /tmtKtĖ (cŸZ tmtKtĖ 18.5 gyBj) tetM| cW_ex tŸtK mŸhŸ ŸiZj| weAvbxiv A¼ KtŸl tei KtŸtQb 149,597,870 wK.wg A_Ÿ cŸq 15 tKwU wK.wg| gŸb Kiv hvK, weivU GKwU gnvRvMwZK eŸ“GŸm nVvr av°v wŸj mŸhŸK| GB av°vi dtj mŸhŸR AeŸvb tŸtK tek LwbKUv mŸi tMj | Gi dtj wK nte? ŸiZje`tj hvl qvl gnvKtŸlŸ Uvbl hvte eŸtj | Zte cŸkŸnj KLB cW_exvmx RvŸte GB ŸUvb eŸtj iŸ Lei? wbDUtbi gnvKIŸq wŸbqg Aek` ej tQ mvŸ_ mvŸ_B| ŸiZje`tj hvl qvi mvŸ_ mvŸ_B gnvKtŸlŸ Uvb

hvte eŸtj, Avi tmb evZŸZvr¶WYKfvte tŸtŸQ hvte cW_extZ| ¹ mgmŸvUv Avmtj GLvŸbB| wbDUtbi KvŸj welqW tgvŸUB eŸSv hvq wb, Kvi Y G cŸkŸZLb l tVwb| wKŠ’wetkŸl wKQz cwi wŸZtZ wbDUtbi mŸ GŸKevŸi tŸt½ cŸo| tmb wetkŸl cwi wŸZi DŸe nq KLB? G aiŸYi cwi wŸZi `W D`vniY t` l qv hvK t eŸgZ একটি হচ্ছে KŸ MnŸŸi i (black hole) KvQvKwQ অবস্থা - thLvŸb gvaŸKIŸ ej cPĖfvte AbŸZ nq, wŸZxqটি এমনি এক পরিস্থিতি tKvb eŸKYv hLb QWtZ _vŸK cPĖ MwZtZ cŸq AvŸj vi ŸiZi (speed) KvQvKwQ|

AvŸj vi ŸiZ wŸtq GLvŸb ŸŸPvi K_v ej v cŸqvRb| AvŸj vi ŸiZ wKŠ’ Avi `k-cwPwU mvaviY eŸKYvi ŸiZi gZ bq| wekvj tm ŸiZ| cŸZ tmtKtĖ cŸq wZb j ¶ wK.wg (3.0x10⁸ wqUvi /tmtKĖ)| 3000 wK.wg iv`v tci`tZ wetkji metPtq `ZMvgx tUŸbi j vMte 10 NŸUvi l tekx mgq, tŸtŸi j vMte AŸZ 3 NŸUv| tmLvB AvŸj vi j vMte 1 tmtKtĖi 100 fvŸMi GK fvM gvŸl | tmb AvŸj v wŸtq wPŠv-KiŸtZ KiŸtZB hŸMvŠKviX GK ZĖj AeZvi Yv KiŸtj b AwBb÷vBb 1905 mvŸj | ZĖjUi bvg ŸwetkŸl Avtcw¶K ZĖj(Special Theory of Relativity)| AvBb÷vBb ZLb mte mte gvŸl wGGBP.WW WWMŸ tkl KtŸtQb mBRvi j vŸĖi RŸi L wekŸe`vj q tŸtK| wZwb ZLb evŸYŸGKwU tŸtUŸU AwdŸm tKivbx wŸtmtĖ KgŸZ| G PvKwi wU l GgwŸtZ tŸtq hvb wb, tŸtqWtj b Zui GK eŸZ MŸngvŸbi evevi mŸcwŸtK; AvBb÷vBtbi RxeŸb G eŸUŸi AeŸvb Amvgvb`| Zui wŸmmwU ŸŸZ MŸngvŸbi bŸtgi DrmMŸKtŸiWtj b| tŸtUŸU AwdŸm KgŸZ _vKv AeŸvq wZwb Aemi mgŸtq MŸel Yv KtŸi wZbwU hŸMvŠKviX MŸel Yv cŸ cŸKvK KiŸtj b hv GK av°vq wPŸvqZ wekŸRMr mŸŸŸU AvgŸt` i aŸvb avi YvŸK Avgj cvŸe wŸj | GKwU cŸŸ AvŸj vK Zwor cŸŸĖi (Photo Electric Effect) eŸvL`v`vqx ZĖj Dci, thLvŸb AvŸj vŸK t`Lv nj tKvqUvg KwYKv iŸc- ZmoZ tPŠŸK kwŸi evnK wŸtmtĖ; wŸZxqW eZŸvŸb meRb wev` Z ŸwetkŸl Avtcw¶K ZĖj ŸDci, hv ZvŸK GŸb wŸtqWj Zvr¶WYKfvte

wekL`wZ; Avi ZZxq cêUwU i wPZ ôeDxbq BZ`Z MwZôî e`vL`v`vqx ZÊj wbtq |

৷P 1 t Avj evU°AvBb÷vBb (vKtZ cvti)

wekL AvtciwKZvi ZÊj wbtq GKUzwek` Avtj vPbv Kiv hvK | G ZtÊj wfvÊ Mto DfVwQj Avmtj 1887 mvtj `B hy³ivóq c`v_êt`i bvtg cwiwPZ ôgvBtKj mb-gwj °ôî (Michelson-Morley

Experiment) cixYj ä djvdj t_tK 2 | GB djvdj i cövrctUB AvBb÷vBtbi hMvŠKvi x wbeUwU tNvYv wQj t ôAvtj vi `wZ Zvi Drm ev chfêYtKi MwZi Dci KLbI wbfP Kti bv; me mgq Gi gvb aê v_tK | ôe`vcvi wLpB A`wZ | gb gvbZ Pvg bv, Kvi Y G e`vcvi wL e`i teM mspvš-Avgv` i Pwj Z chfêYj ä AwfÁZvi mvt_ m½wZcy`bq | thgb aiv hvK, Avcbw NÊvq 40 wK.wg tetM Mvox Pwj vt`Qb, weci xZ w`K t_tK Avcbvi GK eÜzGKB tetM Mvox Pwj tq AvmtQb | Avcbvi gtb nte Avcbvi eÜwU Mvox Avcbvi Mvox i w`tK wY tetM A_ 80 (=40 + 40) wK.wg tetM tatq AvmtQ | Avi Avcbvi eÜi MvoxwU hw` wotq v_KZ, Znñ- তাহলে Avcbvi gtb nZ GwU Avcbvi w`tK 40 wK.wg tetM GwMtq AvmtQ | GwUB wPivqZ AvtciwK MwZi (relative motion) avi Yv | Avtj vi MwZi tñtñ e`vcvi wL Ab`i Kg | aiv hvK, R%K ধরে নেয়া যাক, এক chfêYK tmKtÊ 1 j Y 50 nvRvi wK.wg tetM `ñi Aew`Z GKwU Avtj vi Drtmi w`tK QtU Pj tq | Avi Drm t_tK Avtj v temotq AvmtQ Avtj v Zvi wR`^`wZtZ, A_ñi tmKtÊ cÖq 3 j Y wK.wg tetM | GLb K_v nt`Q chfêYtKi KvQ Avtj vi teM KZ etj gtb nl qv DvPr ? AvtMi D`vni Yi t_tK cvl qv AwfÁZv etj Gi gvb nl qv DvPr tmKtÊ 4 j Y 50 nvRvi (= 1j Y 50 nvRvi + 3 j Y) wK.wg | Avmtj wKŠ`Zv nq bv, chfêYK t`Lte Avtj v Zui w`tK H 3 j Y wK.wg tetMB GwMtq AvmtQ | এই ক্ষেত্রে Avgv`i wPivqZ AvtciwK MwZi (relative motion) AwfÁZv GtKevti B tft0 cto | A_ñi Avtj vi `wZ me mgq GKB A_ñi Gi `wZi gvb GKwU mveRbxb aêK (c) |

AvtciwKZvi wekL ZÊj Avtj vPbv Kitz ntj MwYtZi th Ávb vKv`i Kvi Zv GtKevti B cÖwgK `ñi i | `g -Ktj tR hvi v exRMwYZ ctotQ Zvi v eŠtZ cvi te gj m`w | wKŠ`GB Aw¼K m`w | t_tK th wmxvš`w tewi tq Avtm Zv mwZ`B AvôhRbK | Gi gta`i "ZcyKtqKwU nj t`wZ ewxi mvt_ fti i ewx (mass increase), `ñN`P m½vPb (length contraction), mgtqi `xNvqb (time dialation) | Avti KwU Z` tewi tq Avtm AvBb÷vBtbi ZÊj t_tK Zv nj th, kb`v`v`b (free space) Avtj vi hv`wZ, tKvb cww_ e`i `wZ Zvi mgvb ev tekx nq, Zte mgxKi Y_wj Aj vñi ntq cto | G t_tK GKwU wmxvš-Kiv ntqtQ th tKvb e`KwYKvB Avtj vi mgvb `wZ ARB Kitz cvti bv | tmB t_tK grnwetkñi MwZi mxgv wbx`wi Z nq Avtj vi `wZ w`tq |

GLb eÜwU- এই পর্বের `i`i`i mgm`wUtZ Avevti v wdti hvB, A_ñi btfvRv MwZK e`i av°vq mhñti tMj Zvi AvtMi Ae`vb t_tK | wDUtbi avi Yv Abjhvx cww_ exevmxi Zv tRtb hvl qv DvPZ ZrYvYv | wKŠ`AvtciwK ZÊj etj Avtj vi tPtq tKvb wKQB `ZZi tetM thtZ cvti bv | Avtj vi tetMI hw` hvl qv hvq, Zeyl mgq j vtm | gnvKv`k`ñtZi K_v wetePbvq Avbñj mgqUv tbnvr ZtQwZZtQ bqñ mhñt_tK cww_ exi `ñtZ tgvUvgwU 15 tKwU wK.wg | Avtj vi `wZtZ 15 tKwU wK.wg `ñtZ AwZµg Kti mhñwKi tYi cww_ extZ AmtZ mgq tbq 8 wgnbtUi I wKQy tekx | G tZv tMj mñhP K_v | bñtñt`i gta` Avgv`i wBKUZg bñtñ cñ gv tmUix t_tK Avtj v AvmtZ mgq j vtm Pvi eQtii I

tekx| A_ঐ G গ্নঃZঐ bঐঐঐঐঐ ঐঐঐঐঐ nq, Avgiv Zv Rvbe AvR t_ঐK Pvi eQi cti |

ঐbDUঐbi gnvKIঐ ঐbqঐgi MvYvZK iঐci mঐt_ ঐঐ PVRKYvi gta" ঐg_ঐঐঐ msঐvš-Kj ঐঐঐ ঐbqঐgi tek ঐgj iঐqঐQ| ঐঐ ঐbqgB e"ঐঐঐMঐ mঐ ঐgঐb Pঐj | 1780 mঐtj A_ঐ ঐbDUঐbi ঐঐঐঐঐ cঐKvঐki kZel"ci Pvj ঐ AMv÷b " Kj ঐ^(1736-1806) t' Lvঐj b th ঐঐ e"KYv e"ঐZK PVRvnx nঐj Dfঐqi gta" AvKIঐ ev ঐeKIঐ ej ঐঐqv Kঐi | ঐঐ Ro KYvi gta" ঐঐqvKxj gnvKIঐ ঐbqg Abjvqx tKej gvĀ GKZi dv AvKIঐ bq, ঐঐ PVRKYvi tঐtঐ ঐeKIঐI nঐZ cvঐi | Zte PVR" KYv ঐঐi gta" AvKIঐ bv Kx ঐeKIঐ NUte Zv ঐbফ Kঐi KঐYKv ঐঐi PঐRঐ cঐKvZi Dci, ঐecixZ agঐ, A_ঐ GKঐU avvZঐK, Ab"ঐU FYvZঐK nঐj PVR"ঐ ci ঐঐi ঐ ঐK AvKó nte, Avi PVR"ঐ mgagঐ nঐj (ঐঐB avvZঐK ev FYvZঐK) Zviv ci ঐঐi ঐeKIঐ Ki te | Kj ঐ^t' Lvj b th ঐ ঐZi evovtj GB ej etMঐ AbcvtZ nvm cvq | Avi ঐ ঐZi WK ti tL h" evovtbn nq PঐRঐ cঐi gvY, Zte etj i cঐi gvYI evotZ_ঐK cZ"ঐfঐte **বাড়তে থাকে** PVR"ঐi , Ydtj i AbcvtZ | WK gnvKঐI ঐ gZB "ঐv"Q e"cvvঐU |

Ebwesk kZঐKi cঐgtaঐPঐK ঐbq Mঐel Yv Ki ঐZ ঐMঐq gvBঐKj d"vivtW (1791-1851) t' Lvঐj b th, tKvb avZe Zvঐi mseZ eZঐxi Ges tKvb PঐK t'ঐi cঐšঐ gta" h" AvtcvঐK MvZ_ঐK Zvntj eZঐঐUঐZ ঐe"ঐ cঐvni mঐó nq | G ঐbqgঐK ej v nq d"vivtWi Avtek ঐbqg (Farady's law of induction), Avi GB ঐbqgঐK cঐqvM Kঐi cieZঐKvঐj ঐbqgZ nঐqঐQ e"ঐZK Wvqvbtgv ev tRbvঐiUi, hv Avgv"i mফ"Zvi "k"cuঐK Avgj e"tj ঐ ঐqঐQ | Ab"ঐ ঐK n"vbm Lঐঐqv b I ঐ÷W (1777-1851) I A"ঐঐঐ (Ampere) t' ঐLঐqvঐj b th tKvb KvঐiU evnx Zvঐi KvQ PঐK kj vKv ঐbq Gঐj GঐU ঐevঐB nq, hv cঐvY Kঐi th KvঐiUevnx ZviU PঐঐKi b"vq AvPiY Kঐi | Avevi GI t' Lv tMঐQ th, GKঐU MvZKxj PVR"ঐ tKvb PঐK tঐtঐi ga"ঐ th hvq Zvntj PVR"ঐ GKঐU cvkঐej Abjfe Ki te; GB ej ঐK ej v nq ঐtjvঐi Ä ej ō (Lorentz force) hvi gvb PVR"ঐ gvb I tetMi AvbcvZK | Gme cixঐY I ঐbqg cঐvY Kঐi th, Zঐor kঐ³ Avi PঐK kঐ³ GKB mঐvi ঐfbacKvk gvĀ | Avgiv h" AvR Kj ঐঐ hঐM cto_vKZvg Zte gnvKI"Avi AvtcvঐK ZঐEj ga"Kvi ঐetivtai gZ PঐK Avi Zঐor kঐ³ i Am½vZ ঐbq gv_v NvgvZ nZ | ঐKš' Avgv"i tmsfvm" th Ebwes kZvāxi ga"fvঐM tRgm KvK"gv. I tঐtj i (1831-1879) gZ cঐZfvi Aঐefঐ nঐqvQj | ঐZঐb Avgv"i GB gv_v e"v_v t_ঐK gঐ³ ঐ ঐqvঐj b | ঐZঐb Zঐor I PঐK mঐúMZ hveZxq ঐbqgmKj ঐK GKঐU GKxfZ ZঐEj AvI Zvq ঐbq Gঐj b gvĀ PviU mgxKiঐYi ga"ঐ ঐq | ঐe"ঐr Avi PঐKZj tKvb Avj v" mঐv bq **রইল না, তৈরী হল এক যুগ্ম সত্তা**, GB mঐvi bvg ZঐoZPঐKZ;ev Bঐj KঐUg"ঐMঐbUJRG (electromagnetism) | i ayZvB bq, AvPঐi B ঐZঐb t' Lvঐj b th Avtj vK kঐ³ I ZঐoZ ঐPঐK kঐ³ i chঐqvMgK t' vj tbi cKvk gvĀ, hv Drm t_ঐK gnkঐb" Qmoঐq coঐZ cvঐi Zi½vKvঐi, tKvb gva"g QvovB | GK_v ej vi AtcঐIv ivtL bv th, ej ঐe"vq ঐbDUঐbi MvZi mঐ I gnvKIঐ ঐbqg th fvgKv cvj b Kঐi, gv_v. I tঐtj i **mgxKiY-PZóq সমীকরণ চারটিও প্রায় একই রকম** mgvbi fe fvgKv cvj b Kঐi ZঐoZঐPঐKZj tঐtঐ | **3**

gnvKI"ঐbqঐgi I h" WK GKB i Kg GKUv fvl" cvlqv thZ, Zvntj AvtcvঐKZvi mঐt_ ঐetiva_vKZ bv KLbI | ঐKš'wes kZvāxi tMvovq GঐmI t' Lv tMj ঐbDUঐbi mঐ ঐ ঐq ঐe" KvR Pvj ঐq

hZ fvix cv_i Prcvbtv nte, eμZvl tēto hvte tmB AbcvtZ| GLb GKwU e~ KwYKvtK tUmetj i
Dci tQtō w`tj Gi Pjvi c_l wKŠ`tedK hvte Pr`i wUj eμZvi Kvi tY| e~yKwYKwU Mwotq ci tZ
PvBte fvix cŃ t LÊwUj w`tK, Avi AvcvZ`wōtZ gtb nte KwYKwU cŃ t LtÊi w`tK AvKwL Z nt"Q|
wbDUB Gi B bvg w`tqQtj b gnvKIⓈ Avi AvBb÷vBtbi`wōtZ কোন টান নয়, বরং`vbtbi eμZvi
Kvi tYB t~Lv t~q উদ্ভব হয় মহাকর্ষের gnvKIⓈ bwtgi cŃ tÂi| A_Ⓢ AvBb÷vBb D~NvUb Ki tj b
gnKIⓈ intm`i Avmj PweKwU| G ZiÊi Avte`b wKŠ`mj t cŃvix| vekvj ftii Dcw`wZi Kvi tY
GKBfvte A_Ⓢ ievi Pr`t ii Abjfc`vbtb mwō ng eμZv hv tKvb e~ KwYKvi MwZc`tK, Ggb wK

Avtj vK K_WYKvi c₋tKl e_WKtq w₋tZ cvti | Avgv₋i t_mSi RMtZi tK₋Y₋v_b মাঝখানে m_h[©]vKvi Kvi tYI wKš' Avkcvtki ₋v_b জুড়ে m_Wo ntqtQ e_WZv m_hP Avkcvtki ₋v_b, hvi Kvi tY c_Wex mn Ab^{vb} mKj M_htK GK_W e_WZtj m_hP Pvi w₋tK Nj tZ t₋Lv hvq| Aa^{vc}K Av_WK_Wi ūBj t_i i fvl vq ej v hvq, ŌRo ₋v_btK ej tQ wKfvte e_WKtZ nte, Avi ₋v_b Ro_tK ej tQ wKfvte Pj tZ nteŌ| G_WJB Avmtj w_bDUbxq g_WNI_WtK AvBb ÷ vBtbi tPvL w₋tq t₋Lv|

৮ 4 t Avt_Wq_WKZvi mvavi Y Z_Ej cix_Wlv (c_Wiwktó: 4 hvte)

Zvntj Avt_Wq_WKZvi mvavi Y Z_Ej t₋tK Avgiv Rvbj vg- ₋j e₋t₋tK RoKYv Ggb wK Avtj vK KYvl g_Wvk_hi GB e_WZvi (g_Wvk_tl_W) Kvi tY c_Wfw_WZ nq| 1915 mv_tj, Z_Ej c_WKv_tki ciciB AvBb ÷ vBb etj w_Qtj b th, m_hP KvQKwQ tKvb b_Wl_W t₋tK DTMZ Atj v m_hP cvk tN_Wl c_WextZ Avmvi mgq m_hP AvK_WYi Kvi tY Avtj vi c_WU tetK hvl qvi K₋v| wK KZUKzeuKte Zvl AvBb ÷ vBb MYbv K_ti t₋Lvtj b th Avtj v-c_WU Aw₋ c₋ t₋tK 1.74 t_mtKŪ Pvc (sec. arc) m_ti Avmte m_hP w₋tK| c_Wi g_WYw_W mv_Wvb^W, wKš' c_Wi g_WcthvM^W tZv etUB| wKš' m_Wgm^v nj AvBb ÷ vBtbi f_Wel^WŌvbx hvPvB Kiv w_btq| Gi Kvi YI w_Qj | mvavi Y Ae⁻vq m_hP KvQvKwQ tKvb Zviv L_WR cvl qv tek g_WkvKj | m_hM_WY Kv_tj hLb P_Wt₋i Qvqvq m_hPX_WK hvq, ZLbB t_WKej G ai_tYi cix_Wlv-w_bix_Wlv Avi ch_We_WY K_ti mZ⁻-w_Q₋v D⁻NvU_b Kiv m_We_W| ZvB Kiv nj | 1919 mv_tj i 29tk tg m^vi G_WW_SU_tbi tbZ_tZ_iGK₋j tR^Ww_WZ_We[©] c_WŌg Av_WdKvi m_WbK_WU কাছে c_WŌY_Wc bvgK GK_WU ₋ছোট ঠকে m_hM_WY Kv_tj সূর্যগ্রহণের সময় b_Wl_Wtj v_tKi GB w_Wmi Y (deflection) c_Wi g_Wvc Ki_tj b| Ab⁻ ₋j w_W w_Wtq_WQj t_Wvt_Wg_Wj tbi tbZ_tZ_i e_WR_tj i t_Wmv_Wtj | D_Wf_Wq ₋v_bB, দু' জায়গাতেই dj vdj wKš' AvBb ÷ vBtbi f_Wel_WŌvYxi mv_t₋w_Qtj tMj c_WŌq A_Wl_Wi A_Wl_Wi | 4

ivZiv w_WZ AvBb ÷ vBb t_Wc_WtQ tM_tj b L⁻w_WZi w_WL_Wi | Zui ce_WZ_WmKj Ae⁻v_bi K₋v g_Wtb ti_tLl ej v hvq- GB GK_WU g_Wl_W f_Wel^WŌvYxi mv_dj⁻ Z_WtK ZLbKvi mg_tqi Ab⁻Zg t_Wk_W w_WÁv_Wxi Avmtb cvK_Wt_Wcv³fvte e_Wmtq w₋j | 1921 mv_tj AvBb ÷ vBb c⁻v₋w_WÁv_Wt_W Zui Ae⁻v_bi ₋w_WK_WZ ₋t_Wfc t_Wvt_Wej c_Wi[©]vi jvf K_tib, Z_Wte Avt_Wq_WK Z_Ej R_W⁻ bq- t₋l qv ntq_WQj Avtj K-Z_Wor c_WŌqv_Wi (photoelectric effect) m_WWK e^vL⁻v c_WŌv_Wi R_W⁻ (1905)|

Zvntj g_WW_WK_Wl_Wtq tKvb w_WetivaUv w_QUv_tj b AvBb ÷ vBb ? Avmtj wK w_Wetiva tZv bq, ej v hvq - w_bDU_tbi g_WW_WK_Wl_Wl_Wq_WtK Avt_Wq_WK Z_Ej g_Wva⁻tg AvBb ÷ vBb Avi l e⁻cKZv w₋tj b| hLb e⁻i M_WZ_WteM₋v_tK A_Wi, A₋ev g_Wva⁻vK_WYi c_Wfw_We₋v_tK mv_Wvb^W, ZLb Avmtj w_bDU_b l Ges AvBb ÷ vBtbi Z_Ej GKB iKg dj vdj t₋q| tKvb w_Wetiva₋v_tK bv| Z_Wte w_Wetkl wKQ_Wt_Wl_Wt_W, thgb m_hP KvQvKwQ Ae^W-Z Zviv t₋tK Avmv Avtj vi w_Wmi Y (deflection) w_bDU_tbi w_Wqg w₋tq e^vL⁻v Kiv hvq bv, hv Avt_Wq_WK Z_Ej g_Wva⁻tg tek m_Wt_WRB Kiv hv^WQ| e_W M_Wni K_Wl_Wc₋ w_Wba_Wl_WY w_bDU_tbi w_Wqg wKQ_Wlv fj dj vdj w₋w_Qj, Avi Zv ZLbKvi w_WÁv_Wt₋i tek w_WP_Wj Z K_ti ti_tL_WQj | G m_Wgm^v m_Wgv_Wvtb Zviv m_h[©]Avi e_Wtai g_Wt_WS Av_Wi K_WU M_Wni Ae⁻v_b K_ibv K_ti w_Qtj b; GB A⁻k⁻ M_Wh_WU_i GK_WU bvg_Wl t₋l qv ntq_WQj, Ōf_Wvj KvbŌ| cieZ_WK_Wtj AvBb ÷ vBtbi Z_Ej c_WŌqv_WM K_ti w_WÁv_Wxi v e_W M_Wni m_WWK K_Wl_Wc₋ w_Wba_Wl_WY Ki_tZ t_Wc_Wi w_Qtj b| 5 A⁻k⁻g_Wvb f_Wvj Kv_Wt_WbŌi Avi A_W-Z_Wi Bj bv|

wekRMr m[†]Ü Avgv^ˆ i avi Yv wK μgk ®úó ntq DV†Q ? †KvcwbKv†mi †mŠi†Kw^ˆ K wec†ei ci
M^ˆwj wj l i b†fv-†R^ˆwZ[®] wbtq M†el Yv Avi Zwi ch†e¶Y- cieZ†Kv†j wbdU†bi M†h-DcM†ni MwZ
wbtq mwVK wPŠ† fvebvi c_ Db†³ K†i †`q| wbdUb gnvKI[©] Mwi Zi wbgg c†qM K†i †`Lv†j b
b†fv†g†j i c†ZwU e^ˆ KYvB c†KwZi wbg†gi Aaxb| AvBb÷vBb G†m gnvK†l †m[†]úY[©] bZb e^ˆ vL^ˆv
w†j b^ˆ vb-Kv†j i eμZvi (curvature of space-time) avi Yv Dc^ˆvcb K†i | wZwb ej †j b, gnvkb^ˆ,
Rowc†Êi Dcw^ˆwZ†Z, A†bKUv nvév i evi -Pv^ˆ†i i gZ বৈকে যায় ew†gZv j v†f K†i, hvi c†ve †_†K
AwZ^ˆ *ZMvgx Av†j vK KwYKvI g†³ cvq bv| 1919 mv†j m[†]úw^ˆ-Z GwWsU†bi ci x¶Y AvBb÷vB†bi
Z†Êj mZ^ˆZv^ˆ ই c†vY Kij | wKŠ^ˆ Mí wKŠ^ˆ GLv†bB †kl bq, AvBb÷vB†bi mvavi Y Av†cw¶K Z†Ê
cieZ†Kv†j Kò Mn††i Aw^ˆ-Z; Avi gnwe†k†j c†nvi Y m[†]†Ü mwVK e^ˆ vL^ˆv Dcnvi w†q†Qj |
D†bYwPZ ntq†Qj wek†intm^ˆ i Avi GK AvKI †xq Aa^ˆvq|

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