

2004 ANNUAL REPORT

Co p ed J Dr er De pree D rec or ee Ad s ecre ry

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rt e ns e for Cop on As ropyscs CA s for eday n c of e n Mrys n ers yFc y en e n Dece er er 4 4 on ex s s of propos gener eck y Drs D d C r e nd D d en er Pror o s e e n ers y d greed o ded c e o C n d ese rc C r C C pos ons o e CA s e s ng n dd on f c y reo of n ers y f nds r e se rc es o f ese ree pos ons en ond r ng e f rs $f \circ f_r^A$ e res Dr n or o ned e f c y n ef of 4 4 Dr er De pree C C r er c r nd D recor of e CA n Ferry of 4 nd Dr osep n C C r et 4 n y of 4T o pos doc or personne Dr A nd r s nd Dr A e nder s Men s c o oned e CA n A g s of f↑ o nco ng gr d e s den s n⁴ nd one n :4 e o ned e CA y se ec ng CAfc y s er s per so Ms C er ne Lo e n s or ng Dr De pree on ro ng s rs Mr on n sey Dr D dC r e Dr De pree nd Dr or nd Mr C r s C po nco Dr n Mos por n y Ms ee Ad s o ned e CA o pro de d n s r e ser ces n No e era

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Dr Onno Po s As rono c ns e rec e Ne er nds Ags rog oOcre er ^s 4 Dr ver zz rd n ers y of C 🥆 r dge No e er s ro g o No e er 4^{s} Mr c rd nc ffe n ers y of C 🥆 r dge CA ponsored e n rs n M ry s Ferry :4 N c eosyn es s n Asy po o c n Br nc rs Dr A nd r s ns e for Co p on As rop ys cs nd Dep r en of As rono y P ys cs n M ry s n ers y Ferry 4 C e en ne Q ser ons of e Zod c L g nd e D s Con en of e nner <u>o r ys e</u> Dr osep n ns e for Co p on As rop ys cs nd Dep r en of As rono y P ys cs n M ry s n ers y M rc :4 As rop ys cs Long rer r e r D e se Mr s rs nd A B e o on Dr M e re peon AA O M rc :4 :4 Proing nspo M gne c F e ds o r Osc ons Dr As ey Cro c D9p r e en de P ys q e n ers 9 de Mon r9 My ; 4 <u>rCserArceoog</u> Nceosyn ess ndEr M ng nE nc rs Dr P e Denssen o n ers y of c or C n d ne^A A <u>r e E o on of Me Poor rs</u> Dr Br n C v over P ys cs nd As rono y Dep r en D r o Co ege

yt it

Fro L o Le d e r N c eosyn es s n ed n s Dr o n L nz o Cen re for e r P ne ry As rop ys cs Mon s n ers y Asr Ags 4 od'ng Fooponso eF 🗗 🕆 eF d dyn cs of Proop ne, D s n er c ons Dr Ad Fr n Dep r en of P ys cs As rono y n ers y of oc es er Ags :4 A B rs n B n ry ys e s ndr e r Progeny Dr Onno Po s As rono c ns e rec Ne er nds eper ert :4 r <u>e D r Energy Pro</u> e____ Dr C ro n Od n n ers d o L p enz ep e • er ∶4 Pop on N c eosyn es s Dr er zz rd C ro ne ns e for Q y As rono y C Q A No e er : :4 r e Č se of e C r on r Mys ery c rd nc ffe oA n ers y of C ◄ r dge e n rs Presen ed E se ere y CA Personne n ry $\overset{4}{}$ o es ese rc ns e n Bo der Co orod A B rd $\overset{4}{}$ **A** M n es Af er A $\overset{1}{}$ ese Ye rs Dr osep n M rc 4 4 ns e of As rono y n ers y of C \neg r dge r e Prod c on of e Ne N Mg nd A so opes n A B rs Dr A nd r s M rc $\overset{*}{\iota}$ $\overset{*}{\iota}$ n Fr nc s X er n ers y Mode ng rs Dr ver De pree Apr 4^{s} As rono c ns e rec n ers y Ne er nds r e Prod c on of e Ne N Mg nd A so opes n A B rs Dr A nd r s

- Apr : ⁴ : ⁴ Dep r en of As rono y n ers y of nd n A As erose s o ogy r rog e Ages n ry o Apr Dr D d en er
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 - ne ^s A M P nc ns e for As rono y n e de erg er ny Proper es of e C ose B n ry nd C rc n ry r or s of e ed ec ng e Dr A e nder Men s c o
 - y: ⁴ N O ser ory s ng on DC A c p ng e per Be Nep ne s Or M gr on Dr osep n
 - y] $A^{rd}A^{rd}$ nco er $\Rightarrow e E g$ n ern on y pos on N c e n e Cos os e d n nco er $\Rightarrow e$ ncer n es n e^{AA} Ne A p C p re e c ons nd M gnes Prod c on n n er ed e M ss A B rs

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No en er.] 4 n ers y of Br s Con e r ospercodes nd e pro e of ce c co pos on Dr C n or

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Mr sey seens dyng eeffecs of eeq on of sens ons of gne cds, nds nc ed fro eperndscs Dr C r e n p r c r e se of src poyrope cre es non p ys c effecs s s sesrc y conser es en ropy e poyrop c eq on of s e seen sed for n er c re sons son y s g y ore or o send c c eq on of s e nd e ndes c eeffecs r s ng fro e se of poyrope c m e o ded ros o c se ese effecs Mr sey seen r nn ng s ons for fe d fferen s rop ys c pro e s

Dr en er n yzed e serose s c d co ng fro C n d s f rs sp ce e escope MO \uparrow e so n yzed e p s ed serose s c d \neg ned fro se er gro nd sed e escopes n dd on Dr en er pro ded se r ode ng nd osc on n ys s o se er rese rc gro ps n M ry s ndergr d e s den Mr C r s ero nd Dr en er con n ed e r rese rc n o recen c s e so r e \neg nd nce s s gn f c n y o er n pre o s y repor ed \uparrow ey re es ng e ne \neg nd nce y co p ng c ref y c \neg r ed so r ode s nd co p r ng e e ose s c ge of e so r ode s e no n e eor c ge of e s n

Borro ng fro DNA c ss f c on ec n q es Dr en er ncorpor es s nd de ed s e r ode nd s e r p s on gr ds o c ss f y e ser ed osc on spec r of s rs r ng n ser ed s e r osc on spec r Dr en er s co p er codes sys e c y sc n ro g e gr ds oo ng for s e r ode s ose osc on spec r c ose y c e ser ed osc on spec r r e res n c ed ode s re en sed n ore de ed n yses of e s r r e ode gr ds c rren y cons s of ore n g y es of d oc ed n o er en on f es A n r er of processors of e CA s Beo f co p er c s er re n ne r y cons n se e end ng e gr d o ne sses nd co pos ons

For MO \uparrow Dr D d en er s sed es e r ode grds os dy e osc on spec r of se er so r ypes rs nc d ng Procyon nd e Boo \uparrow e n ys s of Procyon y e ded e ne pec ed res s cos c odes e c o er p des n pred c ed y s p e sc ng rg en s

r e n ys s e odo og es nd ode gr ds e som een pp ed o recen g q y gro nd r odo p

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q e eysnce eC ss n sp cecr f s s rr ed rn nd s no re rn ng ny ges of e sp r dens y es rn s s e es re nc ng n p ne s r ngs A ong er go of Mr C ffey s pro ec s o pp y o r Nody s ons o ese sp cecr f o ser ons n order o s dy ese r ng s e e n er c ons

Dr ns sos dyng eds rond es rBe Pcors onors s den Mr ry er se os nyzng op c nd nfr rede ser ons of s sys e r ese e escop c ges e een prodeck y Dr r e p NA A odd rd p ce F g Cen er o sed e e e p ce r e escope oe ser ed s d s d s op c e eng s nch y Dr Z d n ers y of Pennsy n o sed e ec e escope oe ser e s sys e n e nfr red r e e non rp s een e ser ed n s d s d s s s y r ed oper r ons fronseen p ne s res speced oor n Mr er se s s s oc r cerze ed s s r d r ons nd sper red pper nce r eres s of s d n ys s en e sed y M ser s s den Mr C r s C pe nco n seffor o ode s sys e

★ e er c r c er ze s nseen p ne ry sys e Mr C pe nco s de e op ng ode of d s d s s per r ech yer edded p ne s Mr C pe nco en e p of s ed ges of s d s d s o e e escop c e ser ons of s sys e Mr C pe nco en sc n e r e p r e er sp ce o de er ne er nge of p ne ry sys e s e en r er of p ne s er sses nd e r or s g c c o n for e rp s e ser ed n e Be P c or s d s d s

Dr r s con n es er or on e prod c on of n c e r spec es n Asy po c n Br nc A B s rs there re ny por n ncer n es ns des of A B s e r n c eosyn es s nc d ng n c e r re c on r es s ne e per en s e red ced e errors ssoc ed so e re c on r es cons der y s gn f c n ncer n es re n for ny re c ons there c on r es n o ed n e prod c on nd des r c on of e f or ne neon gnes nd n so opes re of p r c r n erest ec se of recen g prec s on the ser ons of f or ne n e r g c c s e r sys e s nd gnes so op c r os n g there r es rs the est ser ons pro de nq e es of se re o on n o nd n er ed e ss s rs nd y pro de cons r n s on n c e r re c on r es or ng r o s c ot or ors e r ed o cons r n e ncer n es n re c ons n o ed n f or ne nd gnes prod c on n A B s rs

Dr r s s so or ng Dr De pree on e nonsperc effecs prod ced on one en en y e second en er of n ryp rofs rs Pre o s or on s pro e s foc sed on e ss r nsfer e een en rys r co ponents y s ng D ode s for e c en er r e og c for s s e se r e o on s de er ned ery deep ns de e c s r c m e re ed s sperc r s or s s o n e ode s re no sperc yers s ff c en y deep s ss p on s Dr De pree seen or ng Dr M r ce C e en no E er s f er recen yre r ng fro e n ers y of \uparrow or on o on perfec ng s code o cc r e y de er ne p s on per ods of s rs \neg r ry s pe Dr De pree s $\stackrel{4}{\rightarrow}$ D ro on code nd Dr C e en sp s on code s o d e poss e o c c e ery cc r e per ods for s rs c ro e \neg r r y g r es so e ng c nno no \neg e done \uparrow s s n re n c s ccessor s e es o MO \uparrow need eore c s ppor Dr De pree seen ppro c ed y e e s proposed e B \uparrow E s e e o p y n n ogo s ro e o of Dr en er for e M

O er Ac es

Lss er Dr Ad ryof e As rono y nd Pys cs Depr en nd Dr norg nzed e As rono y nd Pys cs er ndergr d e ese rc Conference r sg e es er ndergr d es den ss ppor ng f c y rese rc e oppor n y o presen p pers o e f c y nd e r peers on e r rese rc pro ec c s s done profess on ee ngs of ese s den s ere or ng for CA f c y er ers Ne ye r e CA e pec s o e end ndergr d e rese rc c y o nc de s den s fro o er ns ons s s een pro en o e n e ce en gr d e s den recr en oo

rachine c A nd e As rono y nd P ys cs Dep r en n M ry s n ers y $ex een se ec ed o os <math>e^{A}$ Ann Mee ng of e A er c n As rono c