

M>D551.466

< L≤ehg\_gdhDhefnghNmdk , 2013  
KZgdI-I\_l\_j[mj]kdbc[hkmZjkl\ggucmgb\jkl\_l  
btvlisab@yandex.ru

DBG?F:LBD:KLHYQ? -IKMEUHKKB



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ky ijb ZgZeba\_kimlgbdhùoZevlbf\_ljbq\_kdbo dZjl\p^kkl\_fu maehùo ebgbc  
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jbq\_kdbobaf\_j\_gbcèyk\_\jh -aZiZgZhcqZklbLboh]hhd\_ZgZaZ ±]]ihe m  
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Dexq\_ù\_ IK klhyq\_-ihklmiZl\_evgu\_heguJhkk[bmjh\gvhd\_ZgZk\_\jh -aZiZgZyqZklbLboh]h  
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 [ZgdZ\_Zgguo\_9,62<sup>1</sup> (Archiving, Validation and Interpretation of Satellite Oceanographic  
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LZ[ebpZ

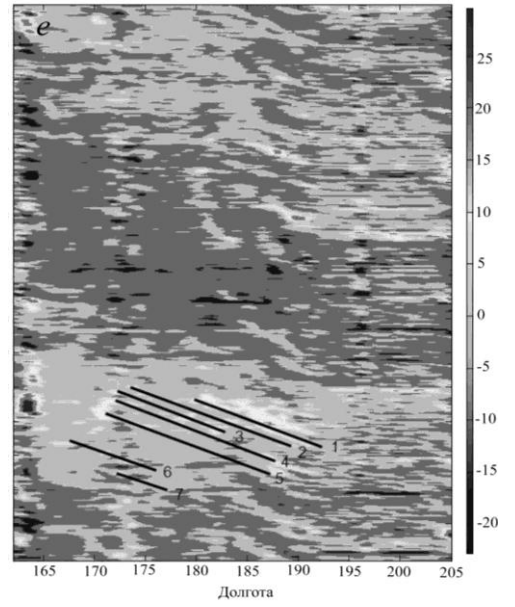
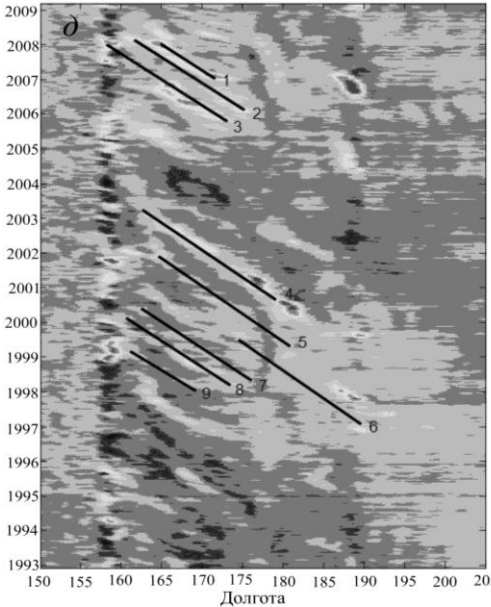
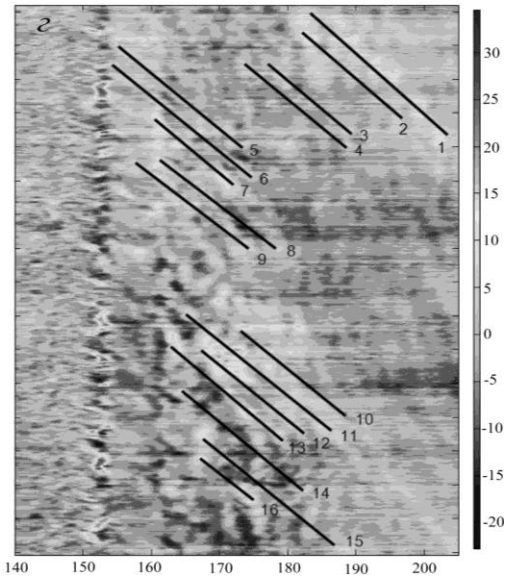
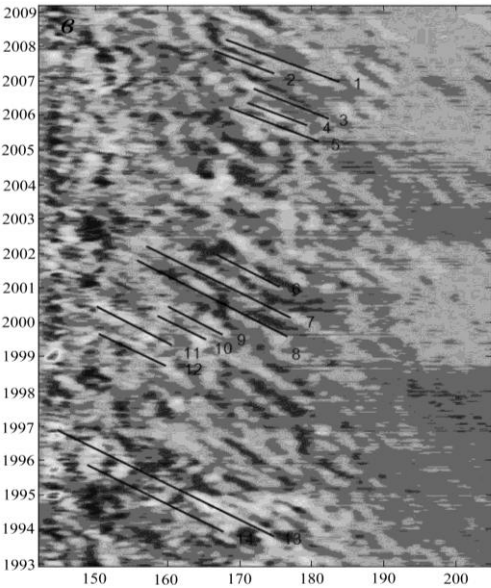
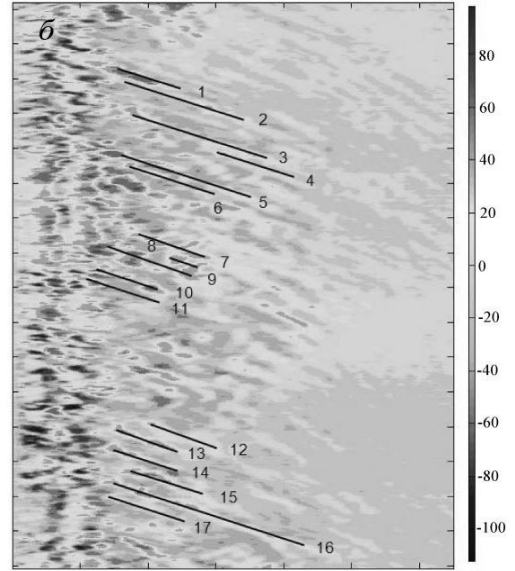
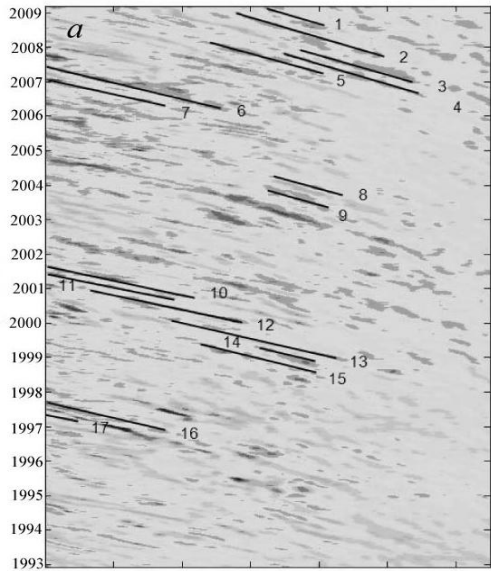
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620	110	905	284	522	162	385	284	109	110	143	122
425	73	862	243	522	162	370	243	315	219	103	81
425	73	905	284	427	122	385	284	576	365	103	81
680	110	905	284	617	284	385	284	360	292	168	162
890	146	905	284	474	203	385	284	274	183	168	162
540	73	774	162	332	162	294	162	360	292	113	122
540	73	949	284	617	162	389	284	159	110	103	81
480	73	949	284	522	243	389	284	245	219	103	81
720	110	774	243	522	162	364	243	576	365	168	162
720	110	862	243	522	162	322	243	360	292	168	162

<sup>1</sup> <http://atoll-motu.aviso.oceanobs.com>



JbkAhgZevgu\_bahie\_luZghfZebcmjhgyfhjyih  
 b kr \_k u^e ggufb i\_j\_f\_s\_gbyfb lj\_[g\_c heg \bkohguo Zgguo  
 kj\_g\_fgh]he\_lgbck\_ahggucohfnZe\_g

Z), 35 ([), 40 (\), 45 (]), 50 (^)

HljZsZx lgZk [y\gbfZgb\_i\_kljZydZjlbGZq\_j hZgbciehb\_l evguobhlj b  
 pZl evguoZghfZebcmjhgyhd\_ZgZgZZevlbf\_ljbq\_kdbodZjlZobkms\_klhZgb\_maeh\  
 maeh\o ebgbc\dhlhjuo mjh\gv\_g f\_gy\_lky b^y dhlhjuo oZjZdl\_jgh kdZqdhh [  
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L\_jfbg @klhyq\_-ihklmiZl evgZy^a klhyq\_-ijh]j\_kkbGZyhegZbkihevam\_lkydZd\  
 aZjm[\_ghc ebl\_jZlmj\_ standing-progressive wave beb progressive-standing wavelZdb\  
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HgZdhk\_ljh]b\_hp\_gdbiZjZf\_ljhklh yq\_-ihklmiZl evguoheg Jhkk[b hafhgu  
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 hegZkhiZZlvknjhfhcwlhcheguLh]ZlhqdbijhkljZgkl Z]^mjh\gv\_g\_f\_g y  
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 gZij ., [15, 16]). >` I\_ekdb ihdZauZ\_lqlh fh^dhe [Zgbc\Zkk\_cgZo ijhbahe v  
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 gZaZiZg\_kmsb\_heguZfieblmgh -fhfnebjhZgg\_u\_h]b[Zxs\_c^klhyq\_ch e  
 gu HgZdh [sZyl\_hjby]jZb\_glgh -boj\_uoheg\ aZfdgmluo [Zkk\_cgZo\_s\_g\_h k  
 lZlhqghjZabZ .

Fh^evklhyq\_ -ihklmiZl evghchegufh\_l[ulvaZibkZgZ\ ke\_^mxs\_f b^  

$$[ : \cos mx \cos ly \cos Vt \quad kx \quad ny . \tag{1}$$

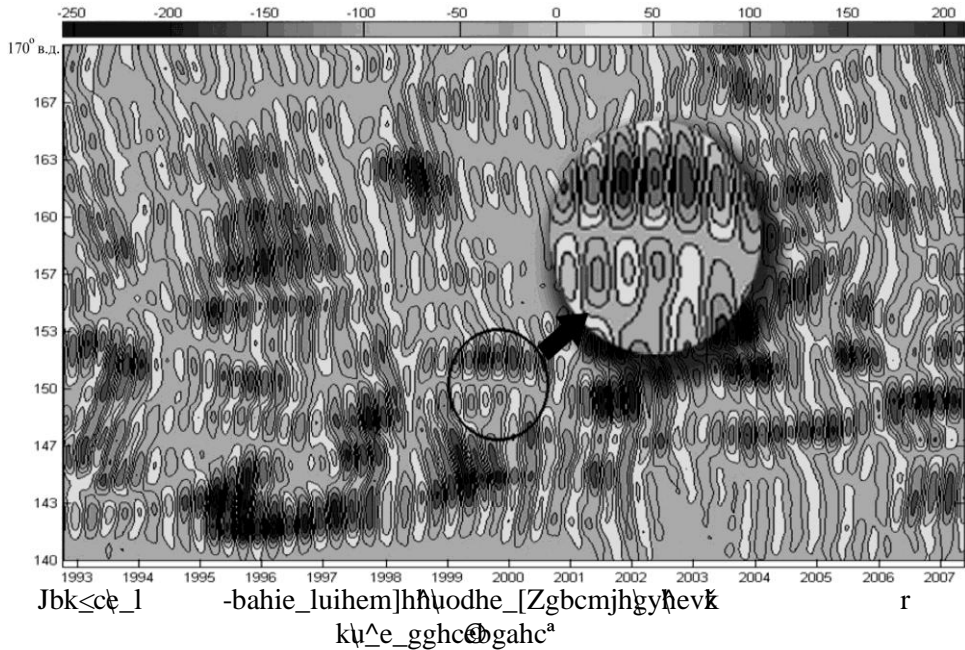
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 \ebqbgZfbdlhju\_h[jZlghijhijpbhgZevguijhkljZgkl\_ggufjZaf\_jZfyq\_cdb ; :  
 ± ZfieblmZklhyq\_ -ihklmiZl evghchegu

Ih iuldb ijhZgZebabhZlv kimlgbdh\_u\_Zevlbf\_ljbq\_kdb \_gZ[ex^gb y \\_jf b  
 gZoklhyq\_-ihklmiZl evguoh egij\_eh`g u gZrbojZ[hZzo> , 3, 5±7, 17]Ij\_RlZ \  
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 heg bf\_lohjrb\_i\_jki\_dlb

Hgbfbaf\_lh^bkke\_hZgbyijhkljZgkl\_ggh -j\_f\_ggyckljmdlmjgbadhqZ k  
 lhlguohegyey\_lkyij\_eh`ggucgZfbf\_lh^c^\_l -bahie\_l [17]dhlhjucaha\  
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ahgZevgu\_\cè\_l -bahie\_lumjhgyLboh]hhd\_ZgZèykrhlhñ h  
 kljh\_ggu\_ih^ Zgguf AVISO. GZjbkmgd\_fhghlf\_lblvoZjZdl\_jgucgZdehg\cè\_l -  
 bahie\_ldhlhjucihdZauZ\_li\_j\_f\_s\_gb\_mjhgy\cè\_l -bahie\_lj\_bfms\_kl\ggh\  
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 kf\_g mnZau hegu Hðg ba lZdbo ijb\_f\_jhèy i\_jbhZ 1999±]] \m\ebq\_gbb  
 i j\_klZè\_g gZwlhfjbkmgd\_ : \ maehhc\_lhq\_ mjh\gvg\_f\_gy\_lkyZnZaZ hegu kdZq  
 dhh[jZaghabaf\_gy\_lkygZijhblbhihehgmx



Kh]eZkghl\_hjbbi\_ jbhù ihklmiZl\_evguohègJhkk[bkhlZèyxl hlg\_kdhevdbò  
 kmlhdñg\_kdhevdbòe\_lèbgu ± hlg\_kdhevdbòdbèhf\_ljhñg\_kdhevdbòlukyqdbè h  
 f\_ljh\ >eyk\_\jh -aZiZghcZkklbLboh]hhd\_ZgZihbahie\_lZfjZkkqblZ gub ij\_klZ \  
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 hggufkhhlg\_r\_gbyf .

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 àñññ

-ikmiLguohg]b

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	30	35	40	45	50	55
Kj_èyyèbgZhegudf	604	879	508	367	333	134
Kj_èbci_jbhñml	95	259	182	259	245	121
JZkklhygb_f_ñmaeZfbdf	>2000	>2200	>1800	>1800	>800	>800
NZahZykdhjhklvj_ñmaeZfbkfk	7.4	3.9	3.2	1.6	1.5	1.3

I\_j\_c^f l\_i\_jv djZkkfhlj\_gbx dbg\_fZlbdklhyq\_ -ihklmiZl\_evguohègJhkk[b  
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 jZs\_gbyA\_feb

$$U = \frac{g}{f} \frac{w}{wy}, \quad V = \frac{g}{f} \frac{w}{wx}. \quad (2)$$

$A^{\wedge}kv \ U \ b \ V \ \pm \ khklZ\eyxs\sb\_]\_hkljhn\sb\q\_kdhckdhjhkl\sb\l\_q\_gby \ ; \ g \ \pm \ mkdhj\_gb\_kh[h \ \wedge \ gh]hiZ^{\wedge}gby \ f \ \pm \ iZjZf\_ljDhjbhebkZ$

Ba nhjfme (1), (ihemqbfujZ\\_gb\\_eykhklZ\eyxsbokdhjhkl\\_cl\\_q\\_gby

$$\begin{aligned} \overset{\circ}{U} &= \frac{g}{f} A \cos mx \ l \sin ly \ \cos Vt \ kx \ ny \ n \cos ly \ \sin Vt \ kx \ ny \\ \overset{\circ}{V} &= \frac{g}{f} A \cos ly \ m \sin mx \ \cos Vt \ kx \ ny \ k \cos mx \ \sin Vt \ kx \ ny \end{aligned} \quad (3)$$

>ey ihgbfZgbydbg\_fZlbdbye\_gbyhibkuZ\\_fh]hnhjfmeZfb b jZkkfh 1  
jbfk\\_kdhevdhijhkluofoh^e\_c

IhklmiZl\\_evgZy hegZ [ : cos Vt kx . nhjfmeZo ey jZkq\\_lZl\\_q\\_gbc ijb  
qbke\\_gghcj\\_ZebaZpbb aZZZebk v ke\\_fnxsb\\_iZjZf\\_lju A = 1, k = ±2GZdf 1  
E jZkml . A^{\wedge}kv ihklmiZl\\_evgZy hegZ ebghc dfbi\\_jbhfh kmljZkij h  
kljZgy\\_lky aZiZghfgZijZ\ey\\_gbbknZahckdhjhklvx . kfkAhgZevgu\\_b\\_gby  
qZklbp hlkmlklmxl qZklbp u\\_f\\_jb\dh gZevghfgZijZ\ey\\_gbb kh\\_jrZxl hj[blZevgu\\_  
b\\_gby hegZi\\_j\\_f\\_sZykv aZiZghfgZijZ\ey\\_gbb ijhyey\\_lky \hi\\_j\\_qguol -  
q\\_gbyo i\\_ji\\_g\bdmeyjgh gZijZ\ey\\_gbx jZkijhkljZg\\_gby heguL\\_q\\_gby hlkmlklmxl\  
h[eZklyowdklj\\_fZevguoagZq\\_gbc mjhgyb hklb]Zxl fZd kbfZevguoagZq\\_gbc h[eZ k  
lyo gme\\_h]h mjhgy b ijb kf\\_g\\_]\\_h agZdZ wlb f\\_jb\dhgZevgu\\_l\\_q\\_gby ihkl\\_i\\_ggh  
mf\\_gvrZxlkyih\\_ebqbg\\_hklb]Z y gme\\_uoagZq\\_gbc wdklj\\_fZevghc h[eZklbi hke\\_  
q\\_]\\_hf\\_gyxl gZijZ\ey\\_gb\\_gZijhlabhihegh\\_

AhgZevgZyklhyq\\_ ~~ikmiZgZ~~ [ : cos mx cos Vt kx .

~~Ak~~ A = 1, k = ±Zdf1 Zkml m ZdfJZkklygb\\_f -  
fnmaeZfb jZaZij\\_urZ\\_l\ebgm hegumaeugZohf\lky\lhdZo x Sj/m, j = 0, 1,

2, Z jZkijhkljZgyxsZyky gZ aZiZ hegZ dZd b \ij\\_ufms\\_c fh^eb ijhyey\\_lky  
lhevdf\\_jb\dhgZevguol\\_q\\_gbyo <ebqbgZkdjhklbl\\_q\\_gbc hklb]Z\\_lfZdkbfZevguo  
agZq\\_gbc hnjhglZevguoahgZoaZnbdkbjhZgguoagZjbkmgd\\_k]ms\\_gb\\_fbahebgbcmjh \  
gy h[eZklyo fb gbfZevguo b fZdkbfZevguo agZq\\_gbc mjhgy l\\_q\\_gby hlkmlklmxl b  
kdjhklb hklb]Zxl gZb[havrboh[eZklyok]ms\\_gbybahebgbc

G\\_ljmgh ihgylv qlh h[\\_jZkkfh]j\\_ggu\\_fh^eb\\_g\\_khh[\\_lklmxl gZ[exZ\\_fuf  
gZZevlbf\\_ljbq\\_kdbo dZjlZo i\\_j\\_f\\_sZxsbfky g\\_hgjhghklyf \ihe\\_mjhgy b ke -  
hZl\\_evgh g\\_fh]mlZ^dZlgh hibkZlv jZkijhkljZgyxs\\_ky aZiZghfgZijZ\ey\\_gbb  
heguJhkk[b

AhgZevgZyihklmiZl\\_evgZy hegZ]Zjfhgbq\\_kdbfhfnebjhZggZyihZfiebl m  
^f\\_jb\dhgZevghfgZijZ\ey\\_gbb [ : cos ly cos Vt kx . J\\_ZebaZpby fh^eb[ueZ

ijh^gZijbke\\_fnxsb\\_iZjZf\\_ljZo A = 1, l E jZdf k = ±E jZ^/df 1  
Zkml JZkklygb\\_f\\_fnmaeZfb\ 2 jZaZij\\_urZ\\_l\ebgm hegumaeugZjZkijhklj Z  
gyxs mxky aZiZghfgZijZ\ey\\_gbb A^{\wedge}kv \hebqb\\_hl ij\\_ufmsbo fh^e\\_cm\\_ ij b  
kmlklmxl \ khklZ\eyxs\sb\\_]\\_hkljhn\sb\q\\_kdh]hl\\_q\\_gbyahgZevgZybf\\_jb\dhgZevgZyZ  
ihe\\_mjh\\_gghc ih\\_joghklb ijbgbfZ\\_lyq\\_bklmx kljmdlmjm AgZq\\_gby mjhgy baf\\_g y  
xlkyhl \h Qbke\\_ggZyj\\_ZebaZpbyihdZaZeZqlh\ ihe\\_mjhgyh[jZam\\_lkyrZofZ l  
gZy miZdhZ g\\_hgjhghkly\\_c pbdehgbq\\_kdh]h b Zglbpdehgbq\\_kdh]h lbiZ dhlhju\\_  
i\\_j\\_b]Zxlky aZiZghfgZijZ\ey\\_gbb <dlhZ]\_hkljhn\sb\q\\_kdbokdhjhkl\\_c hklb]Zxl  
fZdkbfZevguo agZq\\_gbc gZ ljZgbpZo wlb o i\\_j\\_f\\_sZxsboky g\\_hgjhghkly\\_c mae h  
uoebgbyo \lygmluoahg ZevghfgZijZ\ey\\_gbb f\\_jb\dhgZevgZykhklZ\eyxsZyhlkm 1

klm\_lZ\dlhjZahgZevghc khklZeyxs\_c gZijZē\_gu khh\lklbb khagZdhfi\_j \_  
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Ke\_m\_laZf\_lblv qlhQofZlgZy miZdhZg\_hghjhghkl\_c ijhlbhihehgh]h  
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:KFhgbgufgh bkdexqbl\_evgh\jfbgZo@oj\_ckfgZij ., [18@Fgh]hqbk\_e\_g  
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fZkrlZ[guohd\_Zgkdbowdki\_jbf\_glZ olZdb ogZijbf\_j dZd@]Ziheb]hgZd` k \_  
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g\_kyauZeZkvkheghhc\_b\_gZfbdhc

th`\_j\_fy ij\_ēh`gZy\_ür\_ ijhklZy fh^ev Z^dZlgh hibkuZ\_l\_gZ[e x  
Z\_fh\_yē\_gb\_ QofZlgmx`yq\_bklmx\_kljmdlmjmi\_j\_f\_sZxsbokyg\_hghjhghkl\_c  
ijhlbhihehguo agZdh\dZd\_ hēghc\_ ijhp\_kk :gZebabjm\_fu\_ Zevlbf\_ljbq\_kdb\_  
dZjlum`\_fh]ml[ulvkhij\_`e\_gghckl\_i\_gvxmkehghklbhibkZguwlhcfh^evxd h  
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gufbhēvbahebgbc

HgZdhwlZfh^ev g\_hljZZ\_lj\_adb\_nZah`\_baf\_g\_gbymjhg\_y`\_u^ey\_fu\_ gZ  
Zevlbf\_ljbq\_kdbodZjlZo\_dhlhju\_d\_Zdm`\_hhjbehkv\_fukyauZ\_fkijbjhcklh y  
q\_`ihklmiZl\_evguo`egKe\_fmxsbcR]Z\_lZdmx`hafhghklv

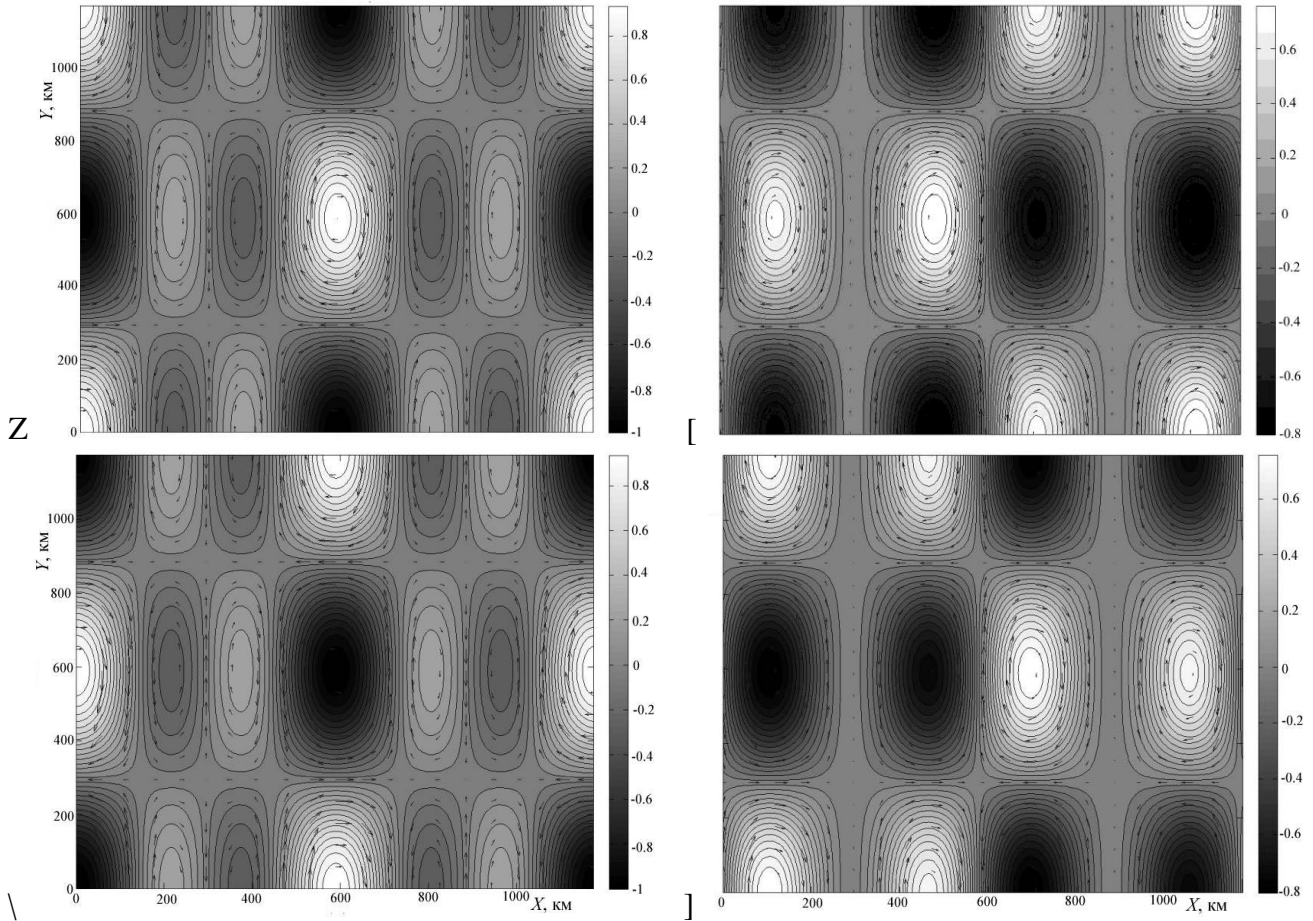
Klhyq\_ **-ikmiLgZbgZ** **njfmou** J\_ZebaZpby\_wlhc\_fh^eb\_ij\_ ^  
klZē\_gZgZjbki\_jbke\_fmxsboiZjZf\_ljZo m = l = QZdf k = ±2QZdf n  
= 0, 1 = 2QZkml\_GZ\_jbkmgd\_ihdZaZgu\_ljZgknjhfZpby\_hēghc\_ih`\_joghklb\_b  
ihe\_kdhjhkl\_cjZaebqgu\_fhf\_glu`\_f\_gbH[jZlbf\_gbfZgb\_gZyq\_bklmx\_kljmdl m  
jmbaf\_gqbhklbmjhg\_yijbq\_fu^eyxkly\_g\_lhev\_dahgZevgu\_maeh`\_ebgbbgh b  
f\_jb`bhgZevgu\_maeh`\_oebgbyokdhjhklbl\_q\_gbcbf\_xlj`\_jkb`gucoZjZdl\_jijb  
wlhf`ahgZevguo\_maeh`\_oebgbyohgbf\_gyxkly\_gZijZē\_gbbaZiZ^ ±hklhdZf\_j b  
bhgZevguo ±k`\_j\_±x]

<ebqbgZ\_yq\_cdb ±jZkklhygb\_f`\_m\_maeZfb\_klhyq\_c\_hēgu\_h]b[Zxs\_c j]miuu  
wg\_j]hg\_kmsboihklmiZl\_evguo`eg ±jZkq\_lZo\_jZaZij\_ürZxlēbgm`hēgu?kl \_  
kl`\_gghqlh\_kebf`\_m\_maeZfb\_klhyq\_c\_hēgu@deZ`Z\_lky`\_kdhev\_dhēbgihklmi Z  
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<gZqZevgucfhf\_gl`\_f\_gbp\_glj\_[Zkk\_cgZ`gmlj\_bijyf]m]hevghcyq\_cdbkh  
k`\_oklhjhghljZgbq\_gghcklZpbhgZjgufbmaeh`\_ufbebgbyfb jZkiheh`\_glj\_[\_gvh e  
guZ\_gZaZiZ^`\_bhklhd\_ ±\_ihfr`\_Maeh`\_ebgbbnjfbjmxlyq\_cdb`Zhc ba  
dhlhjuo\_gZqZevg\_ucfhf\_gl`\_f\_gb\_hagbdZ\_l\_boy\_h\_h[jZahZgb\_kfZdkbfZevg hc  
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jZgZgmexj\_bk , Z).

Q\_j\_a\_q\_l\_jlv\_i\_jbhZ\_hēghc\_j\_ev\_nkf\_sZ\_lky\_gZ\_aZiZ`yq\_cd\_hagbdZ\_l  
bihev`\_dhljhjhf\_lj\_[\_gvjZkiheh`\_g`\_aZiZ`hc\_qZklbyq\_cdbZihfr` ±`\_hklh q  
ghcWlhl`bihevbf\_lfZdkbfZevgu\_kdhjhklbgZ]jZgbp\_jZa^eyxsbcqZklb`bihey  
£\_jb`bhgZevguo\_maeh`\_oebgbyo`\_ebqbgukdhjhkl\_c\_l\_q\_gbcmf\_gvrZxlky`hg\_mey  
ihke\_q`\_hl\_q\_gby\_ ihkl\_i\_gghf\_gy\_xl\_kh\_gZijZē\_gb\_gZ\_ijhlbhihehgh` :gZe h  
]bqgZykbmlZpbyhlgkblkybd\_ ahgZevgufmaeh`\_ufebgbyfjbk , [ ).

Q\_j\_aiheh`bgmi\_jbhZ`p\_glj\_yq\_cdbhdZauZ\_lky\_ihfr`Z`gZ\_aZiZ^`\_bh  
lhd\_ ±\_lj\_[\_gv\_hēgu`\_u^e\_gghcyq\_cd\_h[jZam\_lk\_y\_boy\_h\_h[jZahZgb\_ijhlb\  
ihēgh]h\_agZdZ\_kfZdkbfZevgufb\_kdhjhklyfb\_gZ`\_hi\_jbn\_jbb\_Z`\_maeh`\_oebgbyo  
kdjhklbl\_q\_gbc`hklb]Zxlk`hboi\_jhgZqZevguo\_agZq\_gbcghbf\_xl\_ijhlbhiheh  
gu\_gZijZē\_gbyjb k , \).

?s\_q\_j\_a\_q\_l\_jlv\_i\_jbhZ\_wdklj\_fmfu kf\_sZykv\_gZ\_aZiZ`h[jZamxl`\_p\_glj\_  
yq\_cdb`bihev\_ijhlbhihehgh]h\_agZdZ`dlhjZ\_kdhjhkl\_c\_baf\_gbeb\_gZijZē\_gby\_gZ  
ijhlbhihehgu`\_j\_bk`\_]).



Jbk kēghū hafms\_gby \ihe\_ haur\_gbc mjhgY rdZeZ agZq\_gbc kijZZ  
 b kdhjhklb l\_q\_gbc klj\_edb ± \dlhZ kdhjhklb l\_q\_gby jZkkqblZgghc \jZaebqgu\_  
 fhf\_gluj\_f\_gb  
 Z ± \gZqZevguc fhf\_gl [ ± q\_j\_a q\_ljlv i\_jbhZ \ ± q\_j\_a ihehbgm i\_jbhZ  
 ] ± q\_j\_ai\_ jbhZ .

LZdbfh[jZahfij\_ñlZe\_ggZy gZjbc 3 fh^evklhyq \_ihklmiZl\_evguohegye y  
 \_kyñklZlhhqghh[s\_cb Z\_lZ^dZlgh\_ij\_ñlZe\_gb\_h dbg\_fZlbd\_ñegJhkk[bf h  
 jyobhd\_ZgZo  
 ZgghcZ[hl\_fugZf\_j\_gghg\_jZa^ey\_f[Zjhljhigu\_b[Zjhdebggu\_ñegukq b  
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 LZdbfh[jZahfij\_dbkehñbfkyn\_ghf\_gheh]bq\_kdbfij\_ñlZe\_gbyfhgb a  
 dhqZklhlghcñegñcñgZfbd\_dZdkbkl\_f\_ihklmiZl\_evguoñeg]jZñ\_glgh -ñoj\_ñ\_  
 ñeguFbjhñfhd\_Zg\_yeyxlkyij\_bfms\_kl\_gghklhyq\_ -ihklmiZl\_evgufb Bkke\_^ h  
 Zgb\_dbg\_fZlbd\_kdbo hkh[\_gghkl\_c\_ñeg\_gZhkgñ\_kimlgbdhñ Zevlbf\_ljbq\_kdbo b a  
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 h[jZahZgbc \ihe\_ haur\_gbc mjhgY b l\_q\_gbc khhl\_lklmXsmX l\_hj\_lbq\_kdbf  
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JZ[hlZñihēg\_gZjbnbgZgkhñcih^jd\_Jhkkbckdh]hñhgZnmgZf\_glZevguobkke\_ñZgbc  
 ljZgl< -05-00009-Z

Ebl\_jZlmjZ

1. L\_q\_gby \DZkibckdhf fhj\_h[mkehñ\_ggu\_kñ[hñufb\_gbadhqZ k  
 ihlgufbñegZfbF\_l\_hjeh]byb]bñeh]byK ±77.



2. ijhkljZgkl\\_ggh -j\\_f\\_gguofZkr bŷ>bgZfbdZŷZelbckdh]hfhjyŷkbgihlq\\_kdhfŷZiZahg\\_ lZ[hKI[=bŷhf\\_l\\_hbaZlk
3. ]bŷheK 65. Kh[hŷu\\_gbadhqZklhlgu\\_heguŷZelbckdhffhj\\_F\\_lb
4. hd\\_Zg\\_Db\\_GZmdhZmfdfZk L\\_hjby wdZlhjbZevguo ijhlbhl\\_q\\_gbc \Fbj hhf
5. =jZb\\_glgh -boj\\_u\\_heguhd\\_Zg\\_KI[k
6. H clhyq\\_ -ihklmiZl\\_evguo hegZo Jhkk[b fhj\\_ bhd\\_Zg\\_ <kIKI[=M 2012. K\\_j ŷiK ±103.
7. ;Zjhljhigu\\_klhyq\\_ -ihklmiZl\\_evguo\\_hegu Jhkk[b Ihlhdbkljmdlmju\ bŷhkllyonbabdZ]\\_hkn\\_jL\\_abkuhdeŷZbŷhklhdBaŷZevg\\_hkl . n^ . mg lZ 2011. K.255±259.
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10. GbadhqZklhlgu\\_hegu \wdZlhjbZevghc b ljhibq\\_kdhc ahgZo Lboh]h hd\\_ZgZ <kl KI[=MK\\_jŷiK 101.
11. >bgZfbdZhd\\_Zgkdboijbebh\ -\\_baŷ\\_j\\_jZ[bŷhiE=bŷhf\\_l\\_hbaZl k
12. -Agvdhbq KY ka[m^gb\\_ijh]j\\_kkbgh -klhyqbo hegNZjZ^y >hde :GLK ±479.
13. =\\_hnbabq\\_kdZy]bŷhŷbgZfbdZŷFFbjK
14. ke guhd\\_Zg\\_l\\_jkZg]eihŷ\_ŷhjhŷhZ:BE\\_hglv\\_ZFFbj Lk
15. *Johnson E. R., Clarke S.R.* Rossby Wave Hydraulics // Ann. Rev. Fluid Mech. 2001. V.33. J .207±230.
16. ;\\_jde\\_kdbcdmjknbabdbkeguFGZmdZL k
17. Baf\\_gqbŷklv mjhgy c\\_jh - aZiZŷhcqZklbLboh]hhd\\_ZgZKI[Ba^ -hKFBH -IJ?KKk
18. Hd\\_Zgkdb\\_bojBMNGLK ±47.

KlZlvvihklmibeZj\\_Zdpx 02.02.2012 ]

