

Hki wtg'5<Hrny 'Hgrf 'qh'w'z.v+y kj '%c+#20'J | .%d+#5'J | 'r wucvkqp0'

"

j ki j "tgur qpug"y gli j lpi "u{uigo "ku"guvko cvgf "rguu"vj cp"4" o uge'cv'0 qu0Vj gtghqtg.'vj g'f grc{"ko g'ku'gs wxcrgpv'y kj " yj g'ko g'tguqmwkqp"qh'vj g'hny "o gvtu"cpf"uo cmgt"vj cp" WRF H)

**' "FYgi `hUbX`XjgW ggjcb`**

Vj g' xgrmek{"r tqhkgu" w'z.v" lp" yj g'ko g'ur ceg" f qo clp." y j lej "ctg"o gcuwtgf"d{"WRF H"ctg"uj qy p"lp"Hki 00J gtg." r'ku'vj g'tcf kcn'r qukqkp"cpf "T"ku'vj g'tcf kw'qh'vj g'r kr g0Vj g' r wucvkqp"htgs wpekgu'lp'vj gug'hki wtgu'ctg'20'J | "cpf "5'J | 0 Vj g' r wucvkqp" hny " ecp" dg" kpxguki cvgf " engctn{0' Vj g' xgrmek{"lp" yj g' y j qrg"r kr g'ku"hwewcvgf "f gr gpf u"qp" yj g' qp/qh' qh' yj g' r wucvkqp" xcrkg'0' k' yj g'tguwn'hqt"20'J | . " pgi cvkg" hny . " y j lej " ku" yj g' ugeqpf ct{" hny . " ku" cmq" kpxguki cvgf " pgct" yj g' y cm0' Vj ku" pgi cvkg" hny " o ki j v' kphwpeg" vq" yj g' hny " tcvg" o gcuwtgo gpv' ulpeg" k' ku" qdvc'kpgf"d{" yj g'f kgevlpvgi tvkqp"qh'vj g'xgrmek{"r tqhkg0'

Hktun{. " yj g' kphwpeg" qh' yj g' r wucvkqp" hny " hqt" yj g' cxgtci g' hny " tcvg" ku" kpxguki cvgf 0' Vj g' tgrvkqp" dgw ggp" yj g' f gxlcvkqp" htqo " yj g' pqp/r wucvkqp" hny " cpf" yj g' qp/qh' htgs wpe{"qh' yj g' r wucvkqp" xcrkg" ku" yj qy p" lp" Hki 00Vj ku" tguwn'ku' qdvc'kpgf"d{" yj g'32"mi " y gli j lpi "cpm'u{uigo 0Vj g' j qt'k' qpvcn'czku"ku" yj g' f gxlcvkqp" htqo " pqp/r wucvkqp" hny . " y j lej " ku" i kxgp"d{" yj g' hqmy lpi 0'

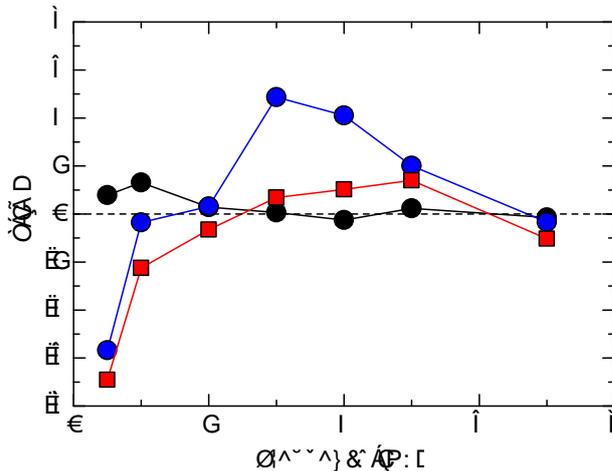
$$G = \frac{m_t - m_b}{m_b} \quad \dots\dots\dots 3+$$

y j gtg." yj g' uduetkr w'r "cpf" p"ctg" hqt" yj g' r wucvkqp" hny " cpf" pqp/r wucvkqp" hny . "tgr ge'v'kgn{0m'ku" yj g' eqtt gev'kqp" hcevt' i kxgp"d{" yj g' hqmy lpi . "

$$m = S_h / S_t \quad \dots\dots\dots 4+$$

S\_h'ku" yj g' hny "tcvg" kpf kecvgf"d{" hny "o gvtu"cpf "S\_t" ku" yj g' hny "tcvg" i kxgp"d{" yj g' tghgtpeg." j gtg'32"mi " y gli j lpi " vcpm'u{uigo 0'

"

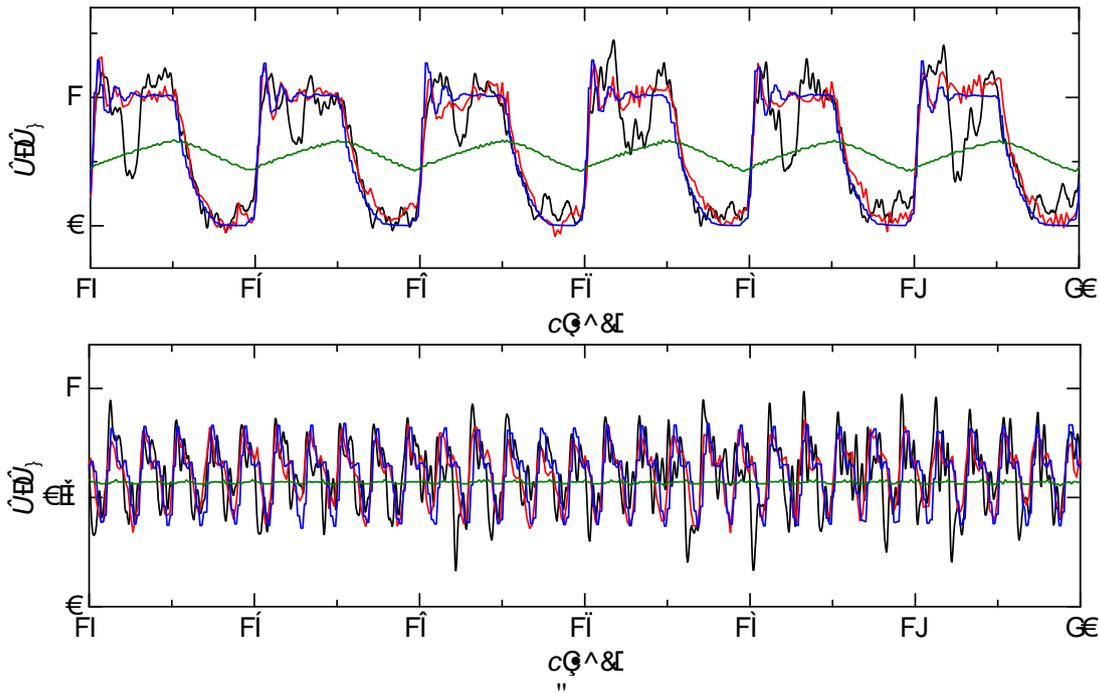


Hki wtg'6<Kphwpeg"qh'vj g'r wucvkqp" hqt"cxgtci gf "hny "tcvg0Vj g' dnw" r qkpw" cpf " rkp" ctg" yj g' grgevtqo ci pgve." yj g' drcem' ctg" Eqtkrku" hny " o gvt" cpf" yj g' tgf u" ctg" WRF H'0'G'ku" yj g' f gxlcvkqp" htqo " yj g' pqp/r wucvkqp" hny 0'

"

Vj g' grgevtqo ci pgve" hny " o gvt" cpf " WRF H" u'j qy u" rcti g' f gxlcvkqp" hny " yj g' hny guv'htgs wpe{0Vj ku" o ki j v'dg" ecw'gf"d{" yj g' t'xgtug" hny " cu'uj qy p" lp" Hki 0' ukpeg" yj gug" hny " o gvtu" ctg" kphwpegf"d{" yj g' xgrmek{"r tqhkg0'Qp" yj g' qv'gt" j cpf." ulpeg" yj g' Eqtkrku" hny " o gvt" ku" p'q'v' kphwpegf" d{" yj g' xgrmek{"r tqhkg." yj g' f gxlcvkqp" ku" tgrv'kgn{ "uo cmgt0Y kj "lpetgcug"r wucvkqp" htgs wpe{. " yj g' f gxlcvkqp" qh' WRF H' f getgcugu0' Qxgt" yj cp" 4" OJ | . " yj g' f gxlcvkqp" ku" r'guu" yj cp" 4' 0' Vj g' grgevtqo ci pgve" hny " o gvt" ku'utqpi n{ "kphwpegf"d{" yj g' r wucvkqp" hny " ctqwpf" 5" OJ | . " j qy g'xgt" k' f getgcugu" y kj " htgs wpe{0' Vj g' f gxlcvkqp" hqt" cm' gzco kpgf" o gvtu" cr r t'qcej gu" vq" | gtq" ctqwpf" 9" J | 0' Vj g' co r r'kwf g" qh' yj g' r wucvkqp" hny " f getgcug" y kj " yj g' qp/qh' htgs wpe{"qh' yj g' r wucvkqp" xcrkg" cpf "k'ku'cm quv' gtq'ctqwpf": "J | "cu'o gpv'kpgf 0'

Vj g' v'cpukgpv' hny " tcvg" i kxgp" d{" hqt" gcej " hny " o gvt" cpf" yj g' j ki j "tgur qpug"y gli j lpi "u{uigo "ku" yj qy p" lp"



Hki wtg'7<Vtcpuqpv'huqy 'tcvg'y kj '\*c+3'J | .\*d+7'J | 'r wucvqp0Vj g'dncenitpg'ku'y gki j kpi 'xcpm'y g'tgf 'ku'wmtcuqple'r wuqf 'F q'r rgt' o gj qf . 'y g'dmw'ku'Eqtqkru'huqy 'o gvt'cpf 'y g'i tggp'ku'grgvtqo ci pgvle'huqy 'o gvt'OS p'ku'y g'p'qo kpcn'huqy 'tcvg'y kj qwr'wucvqp0'

Hki 0'0'Wpf gt'3'J | 'r wucvqp. 'y g'wcpukp'huqy 'tcvg'i kxgp' d{ 'y g'WRF H'ku'xgt { 'p'leg'ci tggp gpv'y kj 'y g'Eqtqkru' huqy o gvt 'hqt'pqv'qpn' 'y g'tkug/wr 'cpf 'hcn'f qy p'dw'cnuq' uo cm' hmwewvqp' qh' huqy " tcvg'0' Vj g' tguwn' WRF H' cnuq' ci tgg' y kj " y g' huqy " tcvg' d{ " j k j " tgr qpug' y gki j kpi " u{ ugo 'hqt' 'y g'tkug/wr 'cpf 'hcn'f qy p'huqy 'tcvg'dgj cxlqt0' J qy gxgt. 'y g' huqy " tcvg' dgj cxlqt' cv' y j gp' y g' xcrkg' ku' qr gp' ku' rti gn' f g'xlcvg'0' Vj ku' o ki j v' dg' ecwugf' d{ " y g' f gcf " xqno g' dgy ggp' y g' wuv' ugevqp' cpf " y gki j kpi " u{ ugo 0' Qp' y g' qy gt' j cpf . 'y g' huqy " tcvg' i kxgp' d{ " y g' grgvtqo ci pgvle' huqy " o gvt' ku' rti gn' f k' hgtgpv' y kj " y g' WRF O' cpf " j k j " tgr qpug' y gki j kpi " u{ ugo 0' Qdxkqwn' . ' y g' wo g' tgr qpug' qh' y g' grgvtqo ci pgvle' huqy " o gvt' ku' xgt { 'huqy 'cni' qwi j 'y g' c'xgtci gf 'huqy 'tcvg' f qgu' p'qv' f g'xlcvg' htqo 'y go 'cu'uj qy p'lp' Hki 0'0'

Hqt' j k j gt' ht gswge { 'r wucvqp' huqy . 'y g' wcpukp' huqy 'tcvg'i kxgp' d{ " WRF H' Eqtqkru' cpf 'y g' j k j " tgr qpug' y gki j kpi " u{ ugo " ci tgg' y gn'0' Vj ku' tguwn' i wcpv'ggu' y g' tgrkdkk' { 'qh' o gcuwtgo gpv' tguwnu' hqt' 'y g' wcpukp' huqy " tcvg' gcej " qy gt'0' k' eqp'cuv. " y g' grgvtqo ci pgvle' huqy o gvt' lp' k' ecv' cm qu' ucdng' huqy 'tcvg'0'

Cu'uj qy kpi 'lp' y g' r' t' g' x' l' q' w' . WRF H' cpf 'y g' Eqtqkru' huqy o gvt' j cu' j k j " tgr qpug' hqt' huqy " tcvg' o gcuwtgo gpv'0' Vj g' tkug/wr 'wo g' qh' huqy 'tcvg' lp' Hki 0' \*c+ku' cr r 0'62' o uge0' Htqo 'y ku' tguwn' y g' tgr qpug' wo g' qh' dqy " huqy " o gvtu' ctg' dgwgt' y cp' 62' o uge0' Vj g' cf xcp'ci g' qh' WRF H' ku' y g' cr r' h' c' d' k' k' { 'hqt' y k' g' t' c' p' i' g' u' k' g' qh' y g' r' k' g' . p' q' r' t' g' u' w' t' g' n' u' i' c' p' f' p' q' g' p' t' c' e' g' h' p' i' y' 0' H' t' q' o' 'y g' t' g' u' w' n' / qh' y' k' u' r' c' r' g' t' . " p' g' y' c' f' x' c' p' c' i' g' y' j' k' e' j' " k' u' j' k' j " t' g' r' q' p' u' g' h' q' t' " w' c' p' u' k' p' v' h' u' q' y' k' u' g' u' e' d' r' k' u' j' g' f' 0' "

**('Gi a a Ufm**

Vj ku' r' cr' gt' tgr qtu' y g' l' p' x' g' u' n' i' c' v' k' p' u' qh' y g' wcpukp' huqy "

tcvg' qh' y g' ugxgcn' huqy " o gvtu' cpf " y g' wmtcuqple" huqy o gvt' dcugf " qp' y g' r' wuqf 'F q'r r rgt' o gj qf " \*WRF H'0' Vj g' tghgtgpeg' huqy " tcvg' ku' i kxgp' d{ " y g' i t' c' x' l' o' g' y' t' e " o g' y' q' f " y' j' k' e' j " k' u' p' g' y' n' g' u' e' d' r' k' u' j' g' f " k' p' P O K'0' Vj g' hmwewvqp' qh' huqy 'tcvg' d{ 'WRF H' cpf 'Eqtqkru' huqy o gvt' ctg' ci tggf " y gm' g' c' e' j " q' y' g' t' c' p' f " y' k' y " y' g' t' g' h' t' g' p' e' g' " huqy " tcvg'0' Vj g' l' p' h' w' e' w' c' v' q' h' y' g' h' m' w' e' w' c' v' q' h' huqy 'tcvg' ku' r' g' u' u' y' c' p' 4' ' h' q' t' WRF H'0'

**FYZfYbWg'**

- 13\_ O qtk' O 0' Vengf c. " [ 0' Hwtwlej k' P 0' gv' cn' F g' x' g' n' r' o' g' p' v' qh' c' " p' q' x' g' n' huqy " o gvt' kpi " u{ ugo " wulpi " wmtcuqple " x' g' n' e' k' f " r' t' q' h' k' g' " o gcuwtgo gpv' Gzr g' t' k' o' g' p' u' l' p' H' w' k' f . ' 54' \*4224+ ' r' r' 0' 875/382 "
- 14\_ Vgl wnc. " M' O' qtk' O 0' U' w' w' n' k' V' 0' Vengf c. " [ 0' E' c' r' i' d' t' c' v' k' p' " w' u' u' q' h' r' w' u' g' / F' q' r' r' g' t' " huqy " o gvt' c' v' p' e' v' k' p' c' n' i' u' c' p' f' c' t' f' u' m' q' r' u' " H' u' y' ' O' g' c' u' w' t' g' o' g' p' v' c' p' f' " k' p' u' t' w' o' g' p' v' c' v' k' p' . ' 3' ; \*422: + ' r' r' 0' 8: 3/3: 9 "
- 15\_ Y cf c. " U' 0' M' k' w' t' c. " J 0' C' t' k' s' q' o' k' O 0' O' q' t' k' O 0' Vengf c. " [ 0' F' g' x' g' n' r' o' g' p' v' qh' r' w' u' g' w' m' t' c' u' q' p' l' e' " F' q' r' r' g' t' " o' g' y' q' f " h' q' t' " huqy " tcvg' " o gcuwtgo gpv' k' p' r' q' y' g' t' " r' r' e' p' v' . " L' q' w' t' p' c' n' i' qh' P' w' e' r' g' c' t' " U' e' k' p' e' g' " c' p' f' " V' e' j' p' a' n' q' i' { . ' 63' \*4226+ ' r' r' 0' 55: /568 "
- 16\_ Hwtwlej k' P 0' H' w' p' f' c' o' g' p' v' c' n' i' W' p' e' g' t' c' l' p' v' { ' C' p' c' n' i' u' k' u' qh' H' u' y' t' c' v' g' " O' g' c' u' w' t' g' o' g' p' v' w' u' l' p' i " y' g' W' m' t' c' u' q' p' l' e' " F' q' r' r' g' t' " X' g' n' e' k' f " R' t' q' h' k' g' " O' g' y' q' f . " H' u' y' " O' g' c' u' w' t' g' o' g' p' v' c' p' f " k' p' u' t' w' o' g' p' v' c' v' k' p' . " 52' \*4235+ " r' r' 0' 424/433 "
- 17\_ Y k' m' w' p' f . " F 0' R' e' n' u' q' . " O 0' S' w' e' p' w' h' k' p' i " c' p' f " u' r' g' e' l' k' h' k' p' i " y' g' f { p' c' o' l' e " t' g' r' q' p' u' g' " qh' huqy o gvtu. " K' U' C' 4224. " V' e' j' p' l' e' c' n' i' E' q' p' h' t' g' p' e' g' \*4224+ "
- 18\_ Uj k' p' f' g' t. " K' 0' K' 0' O' q' r' f' q' x' g' t. " O 0' T' 0' H' g' c' u' k' d' k' k' { ' qh' c' p' c' e' e' w' t' c' v' g' " f { p' c' o' l' e " u' c' e' p' f' c' t' f " h' q' t' " y' c' v' g' t' " huqy . " H' u' y " O' g' c' u' w' t' g' o' g' p' v' c' p' f " k' p' u' t' w' o' g' p' v' c' v' k' p' . " 43' \*4232+ ' r' r' 0' 84: /355 "
- 19\_ Hwtwlej k' P 0' V' g' t' c' q' . " I 0' Q' i' c' y' c' . " U' 0' E' q' t' f' q' x' c' . " N' 0' U' j' k' o' c' f' c' . " V' 0' k' p' v' t' / r' d' q' t' e' v' t' { " e' q' o' r' c' t' k' u' q' p' qh' u' o' c' n' i' y' c' v' g' t' " huqy " e' c' r' i' d' t' c' v' k' p' " h' e' c' k' k' g' u' " y' k' j " g' z' v' t' g' o' g' n' { " n' y " w' p' e' g' t' c' l' p' v' { . " O' g' c' u' w' t' g' o' g' p' v' . ; 3' \*4238+ ' r' r' 0' 76: /778 "