

# ”A database of high precision trivial choreographies for the planar three-body problem”

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Table of 13 pair of solutions with equal topological power and very close  $T^*$  where one orbit is linearly stable, and the other is of hyperbolic-elliptic type. The two solutions have the following property: ”The stability angle of the elliptic eigenvalues of the hyperbolic-elliptic type solution is very close to the larger stability angle of the linearly stable solution, the smaller stability angle of the linearly stable solution is close to zero and the larger hyperbolic eigenvalue of the hyperbolic-elliptic type solution is greater than one but very close to one”.

Elliptic eigenvalues - stability angles  $v_j > 0$ , where  $\lambda_j = \exp(\pm 2\pi i v_j)$ ,  $j=1,2$

Hyperbolic eigenvalues -  $\lambda = \pm \exp(\pm \mu)$ , where  $\mu > 0$  (real)

$N$	$v_1$	$v_2$ ( $\lambda$ )
48	0.486970420626426013258486704454	1.57783479465699085471836250548e-10
47	0.48697042062642601225914847037	1.00000000099138284038597245085
119	0.255011944221133753875666925693	2.19223274459622941216216635818e-05
120	0.255011941995861150357102898351	1.00013775153254718967585223182
127	0.319867491384599571707132814289	0.00184020297184729618061645508126
128	0.3198912419155234158610670058	1.01162927996969602231021843534
137(8)	0.203115546740981616943586745856	0.00155196127615549674989605421432
135(6)	0.203121152010832456342824003357	1.00979891366551381763553398154
154	0.27483950103281381200707798456	1.40800172634484790264154899313e-08
152(3)	0.274839501032805045834141419432	1.00000008846736150775068805795
155	0.16312590211669127544842970804	0.0039138607366540182574669943898
156	0.163116983754152694119434766505	1.02489623221247305191527849625
176	0.498459989083525414020684674666	3.5945509550290313902418861125e-05
177	0.498459990977289529748236030576	1.00022587780391530930946209821
230(1)	0.21164961747499261458177258302	0.000291474518695871608669537715517
228(9)	0.211649721329608547745169523911	1.00183306550740312385695725604
260	0.00815290520731134397312834433483	0.000350512292512458030425479316801
261	0.00815298790977820008737377998511	1.00220476039628978586988214098
322	0.436471865996016150533398647399	6.2749958458940786070162962178e-06
323	0.436471866519311426994525501141	1.00003942773893400552863671891
334	0.439720701532238862703997091607	0.000218601444303145681992927148454
333	0.439720808394131516608613743611	1.00137445704500434076559613287
364	0.157767647495465023616893896163	4.22656015861272375195662864018e-08
365	0.157767647495477165432715543569	1.00000026556264214681002677437
381	0.39725720357579762311594234632	4.25410312968558771803153983328e-05
380	0.397257204856879607645503859619	1.00026732890783624293702056037