

Rotating Ring Structures

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The description of rotating ring structures presented in [1] at: <http://www.ikz.ru/~smulski/Papers/OsMVStr.pdf>. The parameters of structure are given in the data file RtCrcSt2.dat. The text of the program in FORTRAN is in the file RtCrcSt2.for. Executable program with the number of bodies to one million submitted by files: RtCrcSt2.exe, RtCrcSt2 and RtCrcSt2ex. The last two files are used for the operating system Unix, the latter file RtCrcSt2ex is using an expanded number length (34 decimal places). The rest of the executables files are using double length number.

The file V215c30b.dat presents the results of the program RtCrcSt2.exe running with parameters of rotating structure: the second variant setting angles of the first body on the rings; 15 rings and on each ring is located 30 bodies. The initial data of this structure are given in the file RtCrcSt2.dat.

The structure and its parameters can be found using file ReadFile3.mcd in the environment MathCad. Additionally, one can see the view of the structure and explore its dynamics using the executable file Glc3pb3t.exe of Galactica system. Initial data for the program Galactica are specified in the file galacf26.dat. Module Glc3pb3t.exe works with a number of bodies to three thousand. The Guide for the program Galactica is in [2] - [3].

References

1. Smulsky J.J. Axisymmetric multilayer rotating structures / Institute of the Earth Cryosphere SB RAS. - Tyumen, 2013. - 27 p. - Fig.: 7. Refer.: 16. - Russian. - Dep. In VINITI 28.10.2013, No. 303-V2013. (In Russian: <http://www.ikz.ru/~smulski/Papers/OsMVStr.pdf>).
2. Smulsky J.J. The System of Free Access Galactica to Compute Interactions of N-Bodies // I.J. Modern Education and Computer Science. – 2012, 11, pp. 1-20. <http://www.mecs-press.org/>. doi:10.5815/ijmecs.2012.11.01.
3. Smulsky J.J. System Galactica: user's manual. 2012. <http://www.ikz.ru/~smulski/GalacteW/GalDiscrE.pdf>.