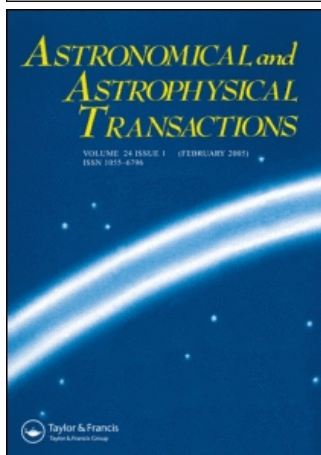


This article was downloaded by:[Bochkarev, N.]
On: 20 December 2007
Access Details: [subscription number 788631019]
Publisher: Taylor & Francis
Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Astronomical & Astrophysical Transactions

The Journal of the Eurasian Astronomical Society

Publication details, including instructions for authors and subscription information:
<http://www.informaworld.com/smpp/title-content=t713453505>

Stability of galaxies in binaries with account of tidal forces

G. S. Bisnovatyi-Kogan^a

^a Institute of Space Research, Russian Academy of Sciences, Moscow, Russia

Online Publication Date: 01 May 1995

To cite this Article: Bisnovatyi-Kogan, G. S. (1995) 'Stability of galaxies in binaries with account of tidal forces', *Astronomical & Astrophysical Transactions*, 7:4, 287

To link to this article: DOI: 10.1080/10556799508203277

URL: <http://dx.doi.org/10.1080/10556799508203277>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article maybe used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

STABILITY OF GALAXIES IN BINARIES WITH ACCOUNT OF TIDAL FORCES[†]

G. S. BISNOVATYI-KOGAN

*Institute of Space Research, Russian Academy of Sciences,
Moscow 117870, Russia*

(Received December 25, 1993)

The stability of elliptical disks in pairs and inside a uniform halo is investigated. A density distribution giving a quadratic gravitational potential of the disk is considered. Tidal forces in binaries and the uniform halo do not violate the quadratic form of the potential. Quadrupole and dipole perturbations are investigated. A dipole instability of the elliptical disk in the ellipsoidal halo is obtained. Elliptical disks in binaries may be elongated and compressed relative to the companion. At low mass components, the elongated disks are stable at slow rotation and compressed disks, at the rapid one. The region of various stability are constructed for quadrupole disk perturbations in binaries and inside the spheroidal halos for different masses, distances between companions and axis ratios.

KEY WORDS Double galaxies: dynamics

The full text was published as Preprint PR-1771 of the Institute of Space Research, 1991.

DISCUSSION

Ossipkov: Is it possible to apply your theory to studies of the cluster dynamics in the galactic field?

Bisnovatyi-Kogan: Yes.

[†]Proceedings of the Conference held in Kosalma