THE BURSTING BEHAVIOR OF 4U 1728-34:
PARAMETERS OF NEUTRON STAR AND
GEOMETRY OF NS-DISK SYSTEM.

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We analyze a set of 21 Type I X-ray bursts from the source 4U 1728-34, observed
with Rossi X-ray Timing Explorer (RXTE), by applying analytical model of spectral
formation in near-critically illuminated NS atmosphere. We infer the dependence of
NS’s mass and radius with respect to chemical composition of atmosphere. Compari-
son with theoretical equations of state of neutron star matter leads to conclusion that
NS atmosphere is helium-dominated. For pure helium case we find NS parameters to
be $R_{NS} = 8.6 \pm 0.2$ and $M_{NS}/M_\odot = 1.32^{+0.1}_{-0.12}$. We speculate on temporal behavior
of red-shift-corrected flux of bursts with radial expansion episodes. We put forward
a scenario of dynamical evolution of NS - accretion disk geometry during which ex-
panded envelope affects accretion disk properties making the area of the neutron star
exposed to observer to change. Our model of process explains timing characteristics
and peak flux variation observed during expansion stage of bursts and yields the esti-
mation of the the inclination angle to the system $\sim 50^\circ$. 