DNP06-2006-000040

Abstract for an Invited Paper
for the DNP06 Meeting of
the American Physical Society

Trigger of the rp- and αp-process

MICHAEL WIESCHER, University of Notre Dame

X-ray bursts are driven by thermonuclear runaways in the atmosphere of accreting neutron stars. The runaway is driven by the αp and the rp-process. These processes are triggered by the 15O(α,γ)19Ne and the 18Ne(α,p)21Na break-out reactions from the hot CNO cycles. New experimental data for the determination of these rates will be presented and the impact on the x-ray burst ignition conditions will be discussed.