Measurements of Lifetimes of States in $^{19}$Ne and the $^{15}$O($\alpha$, $\gamma$)$^{19}$Ne Reaction Rate$^1$ BARRY DAVIDS, TRIUMF, MYTHILI SUBRAMANIAN, TRIUMF and University of British Columbia — We have measured the lifetimes of several states in $^{19}$Ne above the $\alpha$ emission threshold important in the $^{15}$O($\alpha$, $\gamma$)$^{19}$Ne reaction. Combining these and other lifetime measurements with measurements of the $\alpha$ decay branching ratios of these states, we evaluate the rate of the $^{15}$O($\alpha$, $\gamma$)$^{19}$Ne reaction and discuss its role in Type-I X-ray bursts.

$^1$This work was supported by the Natural Sciences and Engineering Research Council of Canada. TRIUMF receives federal funding via a contribution agreement through the National Research Council of Canada.

Barry Davids
TRIUMF

Date submitted: 25 Jun 2007