

## Abstract

It was expected that  $\gamma$  rays from  $^{18}\text{F}$  and  $^{22}\text{Na}$  would be observed in massive One novae, but neither has been to date. The  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$  and  $^{22}\text{Mg}(p,\gamma)^{23}\text{Al}$  reactions may play important roles in the production and destruction of  $^{18}\text{F}$  and  $^{22}\text{Na}$ . We have determined the asymptotic normalization coefficients for  $^{18}\text{Ne}$  and  $^{23}\text{Al}$  through measurements of peripheral neutron transfer reactions in the mirror nuclear systems. We use the ANCs to calculate the astrophysical  $S$  - factors and reaction rates for these two reactions..