Impact of Nuclear Reaction Rate Uncertainties on Nova Models

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Recent simulations of nova explosions have shown that changes in input nuclear reaction rates can have significant effects both on the production of individual isotopes and on global observables such as peak luminosity and ejecta mass. We have determined the effect of nuclear reaction rate uncertainties on nova model predictions by *simultaneously* considering uncertainties in *all* relevant reaction rates. This is the first time this has been done. We will present results, and future applications, of our unique **Monte Carlo** technique. Our approach enables a quantitative determination of uncertainties of nuclear origin in predictions of synthesized abundances, including radioisotopes which may be observable. This technique also enables us to identify which reactions most influence the production of each isotope, thereby guiding future measurements.

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