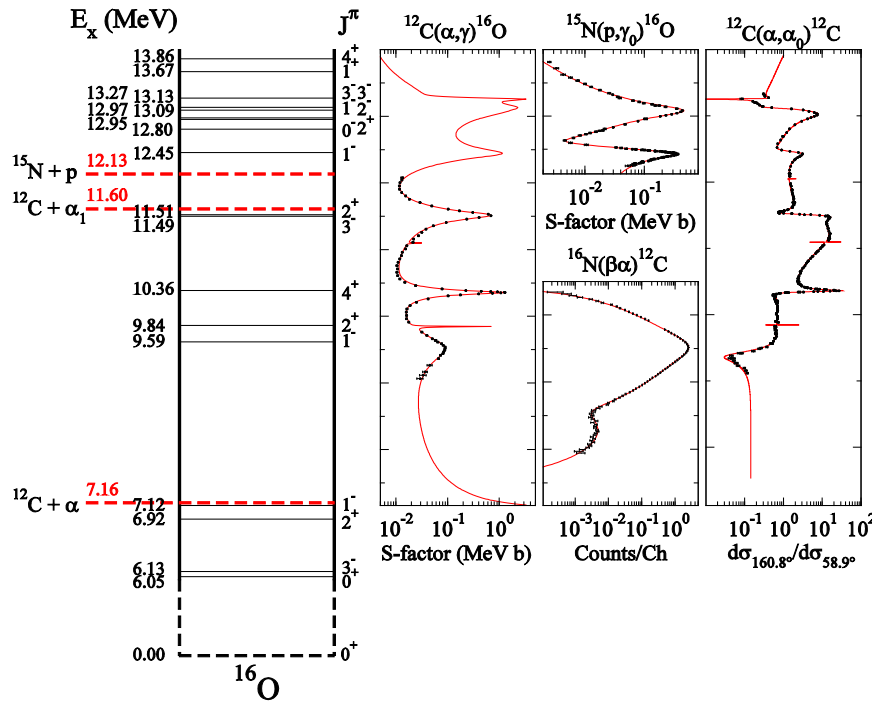


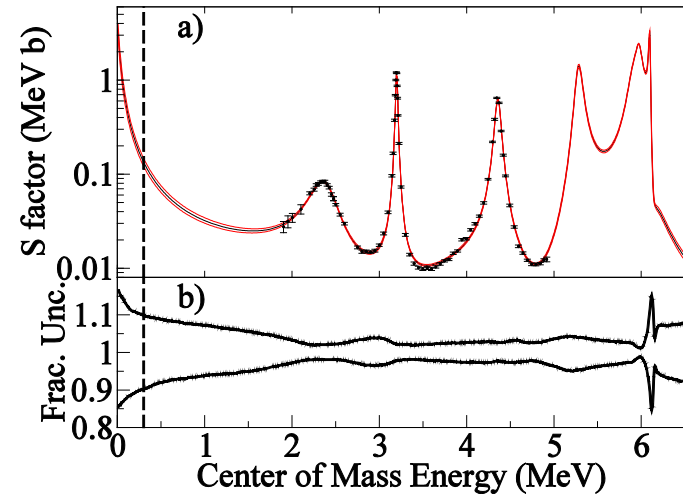
The $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction and its implications for stellar helium burning



The $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction determines the ratio of ^{12}C to ^{16}O in the universe. These elements are both the building blocks of organic life and the fuels for stars in the later stages of their evolution. Using the most sophisticated and comprehensive R-matrix analysis of the ^{16}O compound nucleus to date, a greatly improved understanding of this reaction has been achieved.



Monte Carlo Uncertainty analysis



R.J. deBoer, R.E. Azuma, A. Best, C.R. Brune, J. Görres, S. Jones, M. Pignatari, D. Sayre, K. Smith, E. Uberseder, and M. Wiescher

