

Testing Atomic calculation for Cloudy and Observations (TACO) with STOUT*

*serving suggestion

Luis Fernández Menchero | Ryan Smyth | Andrew Conroy | Michael Turkington | QUB

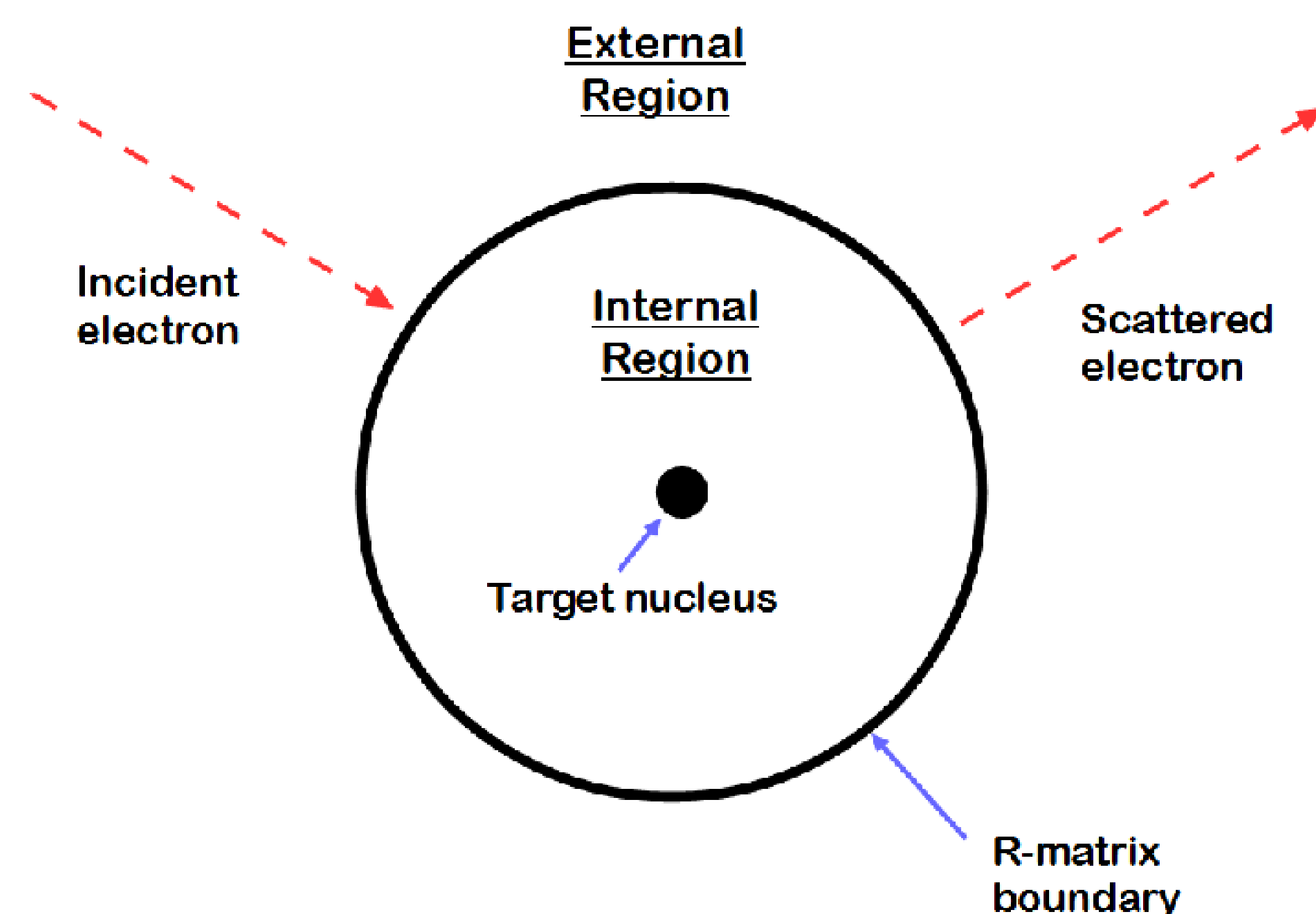
Introduction

Cloudy requires massive amounts of atomic and molecular data in order to perform a calculation. Thus, Cloudy's output is fundamentally underpinned by the availability and quality of the input data. As a database, Chianti is very useful, but has several limiting factors. The Stout database contains updated energy levels and transition probabilities, but many ions only have approximations to the effective collision strengths. Our aim is to supply Stout with accurate theoretical data.

Methodology

- A variety of atomic structure packages can be used generate accurate radiative data for different atomic and ionic species
- Scattering codes which employ the R-matrix method use the target structures to calculate collisional data for various processes, such as excitation and ionization.

R-matrix



Materials

