

## Evaluation of the evaluated data

Yukikazu Itikawa

Institute of Space and Astronautical Science, Sagamihara, Japan

*E-mail address of main author: yukitikawa@nifty.com*

In a wide variety of fields of science and technology, collision cross sections or reaction rates play a fundamental role. Reliable data on those quantities are needed there. To satisfy those requirements, various activities have been attempted to compile data and develop databases. The most important and most difficult part of the activity is the evaluation of the compiled data to establish a reliable database. There are no standard way of data evaluation. The resulting recommended data are often different from each other depending on who evaluate the data. It is desirable, therefore, to evaluate the evaluated (or recommended) data. Here I will introduce three examples of such attempts of evaluation of evaluated data. They are

- (1) A consistency check through the relation of the total scattering cross section and the cross sections of individual processes.
- (2) Calculation of swarm parameters (transport coefficients) to compare with experiment.
- (3) Applications in practical modelling

The first two examples are concerned with the cross section for electron-molecule collisions and based on my own works. The third example, taken from an activity of interstellar chemical modelling, is the evaluation of a set of chemical reaction rates.