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E I N L A D U N G

zum

V E R A - S E M I N A R

von

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# Neutrons and charged particles as probes for light and heavy ion induced reactions

Advancement of technology brings various types of accelerators involving light and heavy projectiles. In the laboratory, accelerators are the main sources of neutrons and light charged particles produced as a result of different types of reactions. Knowledge about the production and emission of different ejectiles provide an insight to the underlying physical process involved. An undisputed method to gain knowledge about these processes is the measurement of ejectile spectra. But, experiments involving various targets, projectiles, and different energies, remain prohibitively painstaking and perhaps on the border line of impossibility. A high premium is therefore put on theoretical estimations. The more appealing option therefore is to use nuclear reaction model codes, which need expertise to deal with and knowledge of nuclear reaction mechanisms involved, in the low and intermediate energy range. In practise, empirical formalism based on rigorous nuclear reaction model calculation will be of great use for quick and reliable estimation of total neutron emission cross section and differential and double differential cross section from light and heavy ion reactions. Handling of such empirical formalism is much easier than the full treatment of the model codes. Reliability of such formalisms is tested using experimental data.

In my talk I shall explain how different nuclear models are dealt with in the model codes and how associated modifications are introduced when required.

**Donnerstag, 28. Juni 2007, 16:30 Uhr**

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",**
**1. Stock, Seminarraum von VERA**

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