

Workshop summary on beam handling

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In this particular session, five short talks were given with an appropriate amount of time between talks for informal discussion. To begin, John Copley described a method to calculate the properties of multiple-section systems of straight-sided guides based on the idea of acceptance diagrams. This two-dimensional geometrical representation of the spatial and angular coordinates of the neutrons in the system may be applied to a variety of practical design problems. In a related talk, Rued Lechner discussed the effect of a guide "bottleneck" to spatially compress the beam at the position of a rotating disc chopper in order to improve the time resolution in a time-of-flight spectrometer application. Laurenz Niel next talked about two distinct methods of neutron energy transfer via time-dependent magnetic fields. In one method, energy is exchanged with neutron spin flip, and in the other, without. The results of experimental demonstrations of both techniques were reported. C. F. Majkrzak then summarized the proceedings of the International Society of Optical Engineering's recent Conference on Neutron Optical Devices. Twenty-four talks were presented at this conference on mirrors, supermirrors, multilayer monochromators, beam guides, and other applications of relevance to the current workshop session. Finally, Kent Crawford presented the results of work on Soller collimators for small angle scattering application.

The discussions following each of these talks served to clarify certain points as well as stimulate further thought on the subject.
