

Seminar

Fall 2011



THE UNIVERSITY OF
SOUTHERN MISSISSIPPI
SCHOOL OF COMPUTING

Title: The Method of Brackets

Time & Location:

2:00pm, Friday, October 28, 2011
Vislab (Tec 205)

Speaker: Karen Kohl
Department of Mathematics
The University of Southern Mississippi

Abstract: In spite of being a classical problem, the current techniques available for symbolic integration in software such as Mathematica are not sufficient to evaluate some quartic integrals or some integrals of functions of mathematical physics, such as Bessel functions.

The Method of Brackets, a heuristic process appearing in the evaluation of Feynman diagrams, can be used to evaluate symbolically a large class of single or multiple definite integrals. A Sage implementation allows for experimentation and testing against the Gradhsteyn-Ryzhik Table of Integrals. Such experimentation has suggested modifications of the original rules.