Abstract Submitted
for the APR08 Meeting of
The American Physical Society

Manifestly covariant three-body bound state calculations PIETER MARIS, Department of Physics and Astronomy, Iowa State University, Ames, IA 50011 — Two-body bound states can be described by the homogeneous Bethe-Salpeter equation. Analogously, three-body bound states can be described by a homogeneous integral equation for the bound state amplitudes. In ladder truncation, one can solve these body bound state equations numerically, without any further approximations. I show result for explicitly covariant calculations of bound states of three scalar particles and of bound states of two scalars and one fermion. I compare my results to a commonly used approximation to the Faddeev equation: namely a reduction to a bound state of a single particle and a (bound) two-particle state.

Pieter Maris
Department of Physics and Astronomy, Iowa State University, Ames, IA 50011

Date submitted: 11 Jan 2008 Electronic form version 1.4