Constructing Helically Symmetric Spacetimes JOCELYN READ,
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MAN, Department of Physics, University of Wisconsin-Milwaukee — A number of
people have recently begun work toward the construction of helically symmetric
spacetimes that model binary systems of compact objects. Imposing helical sym-
metry will allow us to numerically solve the full set of Einstein equations, and the
resulting spacetimes could yield accurate initial data for inspiral simulations. One of
us (Uryu) has completed a code for constructing binary neutron stars, however con-
vergence has not yet been attained. Starting from a 3D linear scalar field, we have
explored the convergence properties of a series of increasingly complex toy problems.

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