

# Full Stack Open Source Simulation Tools

## Overview

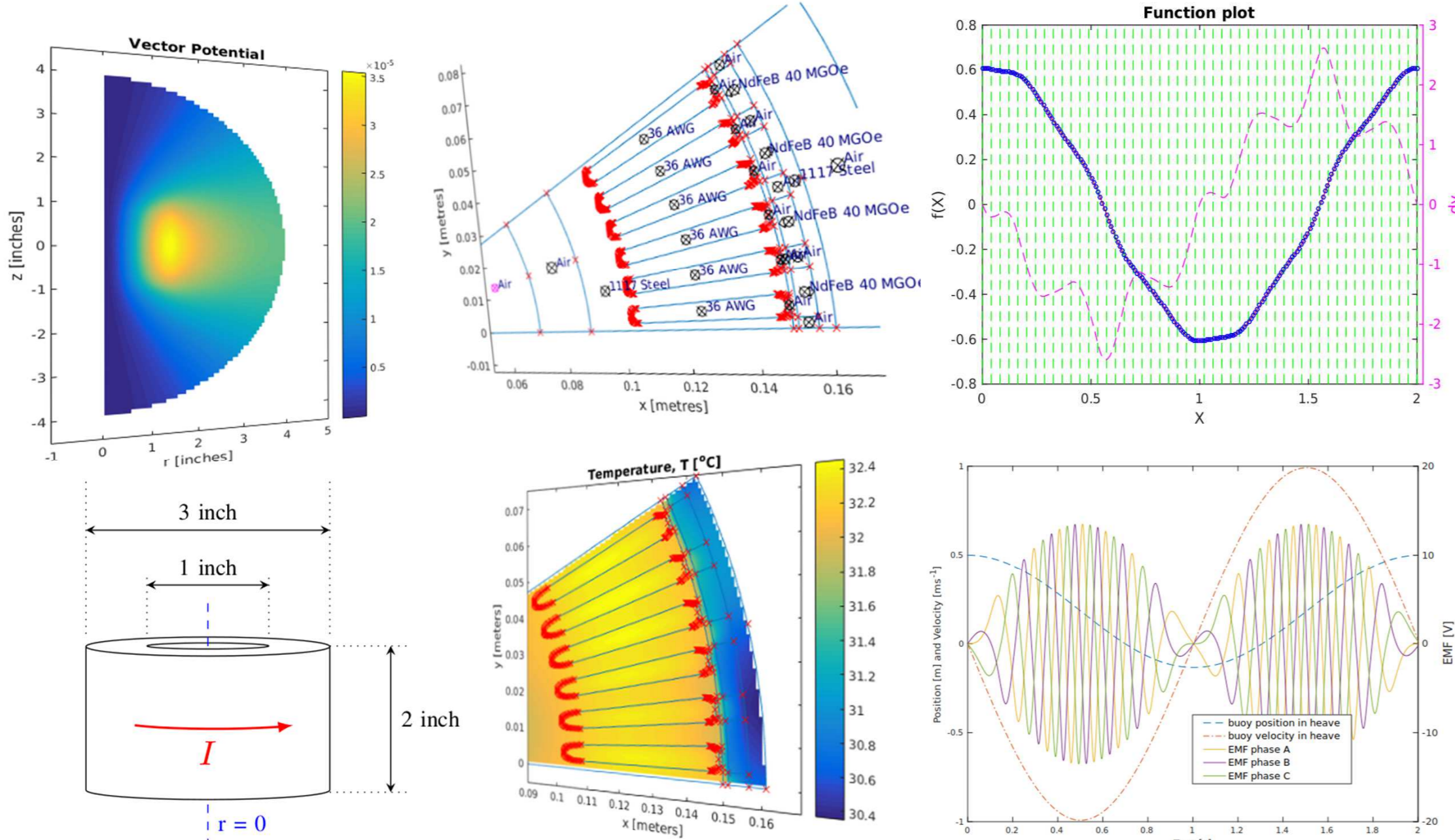
A full suite of modular system simulation tools have been developed which can be applied to a range of systems. All tools except xfem are made available within the RenewNet Foundry, hosted on Sourceforge.net. xfem is a separate project on Sourceforge.



RenewNet Foundry

## xfem – Finite Element Analysis

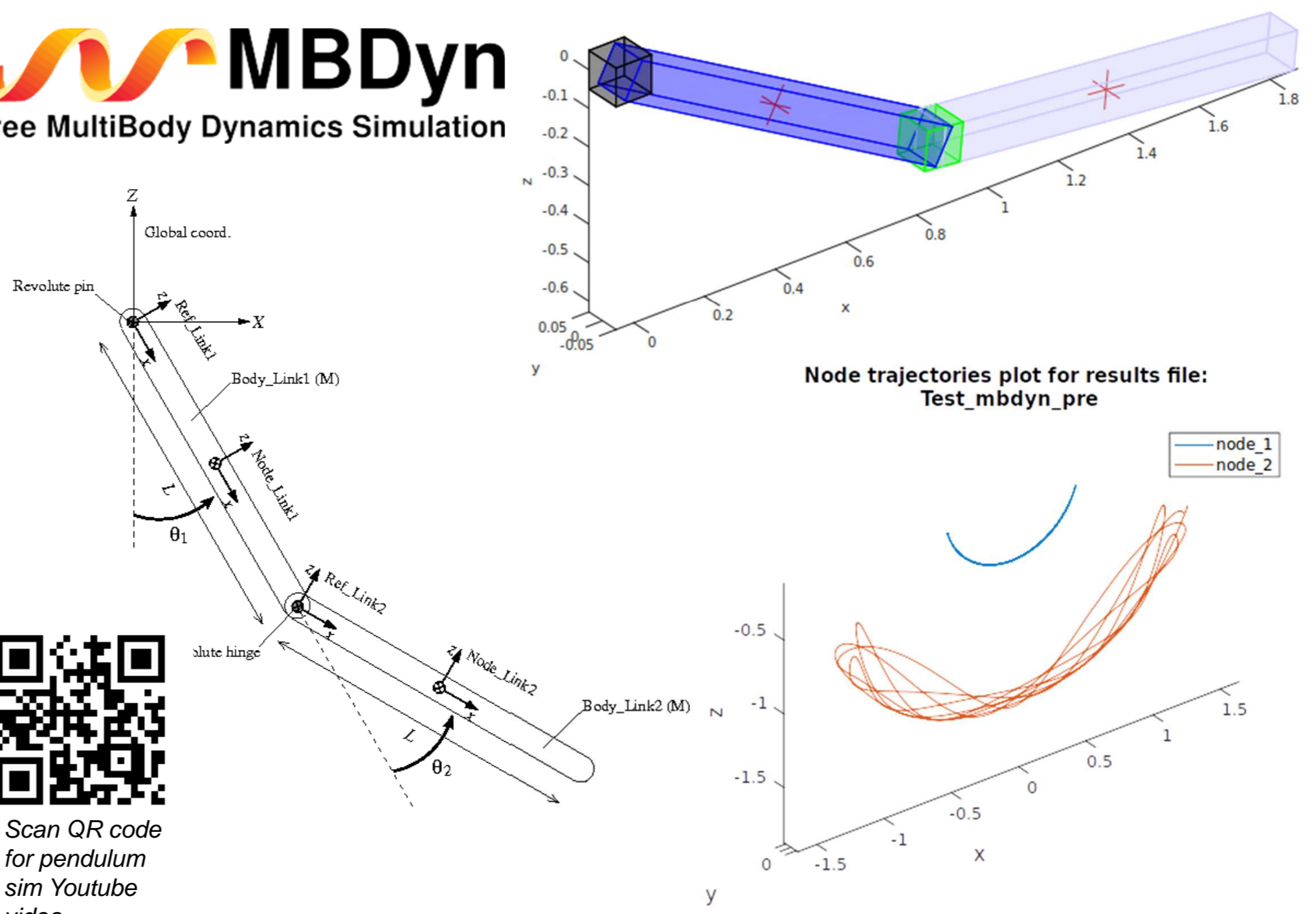
xfem is an advanced finite element analysis toolkit derived from the ubiquitous FEMM program. Unlike FEMM it is cross-platform and optimised for batch processing, with an advanced Matlab/Octave interface with direct memory access. In use by many companies around the world!



## Multi-Body Dynamics Toolbox

Matlab and Octave compatible interface to an advanced multi-body, and multiphysics simulator, MBDyn. Features:

- Advanced pre and post-processing visualisation
- Automatic animation of simulations



## Electrical Machines Toolbox

Based around xfem, an electrical machine simulation and design toolbox has been developed which features modular machine simulation components, for both rotary and linear machines, multiple levels of fidelity for the same machine design and rapid batch processing capabilities to aid automated design tools.

## Edinburgh Wave Systems Toolbox

With code originally derived from WEC-Sim, but ported to run on both Matlab and the free alternative Octave, and replacing the Simscape Multibody dependency with the advanced MBDyn multi-body solver. Features Multi-rate simulation to speed up overall simulation times while retaining high fidelity, and optimised for batch processing and high throughput computing.

